

UNIVERSITY NEWS

A FORTNIGHTLY CHRONICLE OF HIGHER EDUCATION & RESEARCH SEPTEMBER 15, 1980



Dr. H. K. Jain, Director, IARI, New Delhi, explaining the Institute's work on improvement of wheat in recent years, to the Prime Minister of Vanuatu, Fr. Walter Lini.

**MAHARASHTRA ASSOCIATION FOR THE CULTIVATION
OF SCIENCE, M.A.C.S. RESEARCH INSTITUTE**

Law College Road, Pune 411 004 (India)

Applications are invited for the following posts :

Name of the Post	No. of Posts	Qualifications
Scientist C (Rs. 1100-1600) One each in— Biometry, Geology	2	Ph.D. or equivalent qualification in the subject with research publications and minimum of five years experience in writing scientific programmes, guiding post-graduate research and teaching and in laboratory organisation. Qualifications relaxable in exceptional cases.
Scientist B (Rs. 700-1300) One each in— Biometry, Microbiology, Zoology	3	Ph.D. in the subject with three years research experience and publications. Qualifications relaxable in exceptional cases.

1. Ordinarily candidates selected for the above posts will have to start on equivalent fixed remuneration depending on their actual performance. Selected candidates may be considered for equivalent scale posts on the basis of individual merit in due course.
2. Other things being equal, preference will be given to SC/ST candidates.
3. All the posts are temporary and likely to continue indefinitely and carry dearness and other allowances as admissible from time to time.

Applications stating name, age, qualifications, research publication, experience, etc. should reach the Director, Maharashtra Association for the Cultivation of Science, Law College Road, Pune 411 004, by **10th October, 1980**.

**INDIAN INSTITUTE OF
TECHNOLOGY**

P.O. I.I.T., Powai, Bombay-400 076
Advertisement No. A-7/80

Applications are invited for the following permanent posts at this Institute, in the prescribed form obtainable free of charge from the Registrar, Indian Institute of Technology, P.O. I.I.T., Bombay-400 076 on request accompanied by self-addressed envelope (25 cm x 10 cm). For the posts of Assistant Professor and Lecturer, applicant should give an account of their academic and professional record. Persons employed in Government/Semi-Government Organisation or Educational Institutions must apply through proper channel. Indian candidates, abroad may apply on plain paper in duplicate. The posts carry allowances such as D.A., C.C.A., H.R.A. as per rules of the Institute which at present correspond to those admissible to the Central Government Employees stationed at Bombay. Completed applications should reach the Registrar, I.I.T., Powai, Bombay-400 076 on or before **10th October, 1980**.

Some posts of Lecturer are reserved for the candidates belonging to SC/ST community.

1. Assistant Professor : Scale of pay Rs. 1200-50-1300-60-1900.
2. Lecturer : Scale of pay Rs. 700-40-1100-50-1300.
3. Development Engineer : Scale of pay Rs. 700-40-900-EB-40-1100-50-1300.

Qualifications & Experience

1. Assistant Professor—Department of Mechanical Engineering
Degree in Engineering, M.B.A. from

I.I.M. or from recognised similar Institution abroad. Ph.D. in Management or Fellow of the Institutes of Management. Should have 2-3 years of teaching, research or Industrial experience.

2. Lecturer—Department of Mechanical Engineering.

Degree in Engineering. M.B.A. from I.I.M. or from recognised similar Institution abroad. Experience in Industry or teaching or research Institutions desirable.

Applicants for the above posts should have specialisation in one or more of the following :

1. Materials Management
2. Maintenance Management
3. Operations Management
4. Project, R and D Management
5. Management accounting

3. Lecturer—Department of Humanities & Social Science

(i) English

Applicant should have consistently excellent academic record with Master's degree in English or in Education with English as the principal subject from a recognised University / Institute. Minimum two years' experience in teaching / research / Industry. Doctorate degree desirable.

(ii) Economics

Applicant should have consistently excellent academic record with Master's degree in Economics from a recognised University / Institute with specialisation in Public Economics, Public Policy and Economic Develop-

ment and Planning. Minimum two years' experience in teaching / research / industry. Doctorate degree desirable.

4. Development Engineer—Industrial Design Centre

Degree in Mechanical / Electrical Engineering with 5 years experience in product development, thorough knowledge of various materials and processes and costing. Experience in developing mechanism and prototype from the Design stage to the production model essential. Should be capable of giving materials and processes specifications.

Job description

He will be responsible for developing working prototypes of various products designed at the Centre and to bring them upto a stage where they could be handed over for production.

Experience relaxable in case of candidates of proven ability.

**BIRLA INSTITUTE OF
TECHNOLOGY AND SCIENCE
Pilani 333 031 (Rajasthan) India**

Advertisement No. FR/1/80

BITS has several faculty openings at various levels in the following disciplines :

Chemical, Civil, Electrical & Electronics, Mechanical Engineering; Computer Science; Instrumentation; Biological Sciences; Chemistry; Economics; Mathematics; Physics; Pharmacy; Museum Studies; Science and Technology Development; Management; English; Humanistic Studies.

BITS is a privately supported all India technological institution of higher learning. It is a 'Deemed University' offering degrees in the above disciplines at undergraduate, postgraduate and doctoral levels. It has pioneered several educational innovations.

The Institute is poised to offer appointments under both academic and research designations, short term appointments through its visiting and adjunct faculty arrangement, and also to fresh graduates and young persons with opportunity to work for a higher degree, which is linked with the growth of the institute in terms of its priorities.

The Institute offers latest U.G.C. salary scales. Those who are interested may ask for a booklet entitled "Introducing BITS to Prospective Faculty—1980" for all details which also contains the format of the application form.

It may be noted that this advertisement carries no specific last date. In order to be useful for both parties the advertisement will be valid for one year from the date of its issue and the Institute will review cases received during the year more than once.

A. N. Bhargava
REGISTRAR

UNIVERSITY NEWS

VOL. XVIII SEPTEMBER 15
No. 18 1980

A Fortnightly Chronicle
of Higher Education Price
80 Paise

IN THIS ISSUE

Spreading Population Awareness amongst the Youth	502
Sociology of Violence	503
Convocation	
Role of universities in developing societies	504
Campus News	
Delhi sets up committees to redress karamcharis appeals	505
Panjab organises guidance and counselling cell	505
Agriculture	
Prophetic role of agricultural universities	508
Commonwealth PMs visit IARI	510
New courses at APAU	511
News from UGC	
Need for national law institute	512
UGC surveys higher education in states	512
News from ICSSR	
Alternatives in development	513
AIU Memorandum to Prime Minister	515
Conferences, Seminars and Workshops	517
Classified Advertisements	521
Theses of the Month	527
<i>Opinions expressed in the articles and reviews are individuals and do not necessarily reflect the policies of the Association</i>	

PM Meets AIU Delegates

The Standing Committee of the Association of Indian Universities which met at Delhi on the 29th of August 1980 made a number of important decisions. Dr Ramaranjan Mukherji, Vice-Chancellor, University of Burdwan, presided. Amongst others, it made the following decisions :

1. The President informed the Standing Committee that a delegation of the Association had called on the Prime Minister on the 27th August and discussed with her the memorandum submitted in advance. She had agreed with most of the submissions made therein. In particular, she accepted the suggestion that a joint committee of the Association of Indian Universities and the University Grants Commission might prepare a piece of draft legislation for consideration of the government in pursuance of education having been made a Concurrent subject four years ago. This committee is likely to submit its draft report to the Prime Minister within two months.
2. In regard to foreign students, two complementary proposals were made. One was to request the IIT authorities to make their question papers available for those foreign students who might wish to take the test in their own country. The answer books would be sent to the universities to which they wish to seek admission and those of them that qualify would get admission. The second proposal was in regard to subjects other than engineering. It was suggested to the universities that they should organise tests in English as well as one or two other core subjects through the good offices of the Indian Embassies in those countries. The present practice whereby students come to India in search of admission is wasteful in terms of time and resources. It is important therefore to rationalise the procedure in such a way as to facilitate the admission of foreign students to Indian Universities.
3. The Standing Committee strongly recommended to universities and colleges that they should take active steps to equip new entrants into the profession with teaching skills. It was suggested in this connection that whenever any faculty improvement seminars are held, imparting of teaching skills should form an important component of the programme. A manual might be got written on the subject and arrangements ought to be made to start a correspondence course also, should there be enough demand for it. Above all, the media should be used for projecting the importance of teaching skills. From 1982 an Indian satellite would become operational. Advantage could be taken of that satellite also to create greater awareness in respect of the importance of teaching skills being acquired at the college and university level as well.
4. The Committee viewed with great concern the action of the Government of Orissa in having superseded Berhampur University, a couple of months ago, thereby obliging the Vice-Chancellor to step down from his office. In the opinion of the Committee, there was no justification at all for taking such a step. Orissa is one of the States which is trying to develop. Such a step is not likely to help in this process. Orissa needs stronger universities than what she has. It is of considerable significance therefore that the State Government does its best to strengthen the universities in every possible way. Certain proposals in this behalf had already been made to the Government of Orissa and it was hoped that those would be found acceptable. □

Spreading Population Awareness Amongst the Youth

V.S. Mathur*

Two basic assumptions about India have to be understood at once. Firstly that India is facing a population explosion—the present level stands at about 65 crores, whereas in 1941 it was only 38 crores. A baby is born every 1.4 seconds. Secondly that the increase of economic growth has not been able to keep pace and has miserably lagged behind. As a result about 30 crores of population are living below the subsistence level.

The ever increasing population continues posing a still more serious threat to our economy and social fabric. It is tragic to learn that our per capita income is amongst the lowest in the world—150 dollars as compared to 7,000 dollars in USA, 6,000 dollars in UK and 5,000 dollars in Japan.

The remedy lies only in the twin strategies of drastically cutting down the population growth rate and substantially increasing the rate of production. Education can be the most effective single factor that can help us in both the fields. On the one hand education can work as the most effective contraceptive and on the other an educated worker is able to produce much more than an uneducated worker. It has to be a continuing effort so that the threat of increasing reproduction and lower production could be combated for all times to come. Every segment of population and every age-group has to be involved in the twin processes, citizens of today, citizens of tomorrow, and citizens of the day-after. However, it has to be understood that agricultural and industrial production cannot be stretched beyond a certain limit. Once the optimum is reached it has to stay there. Even for this, constant efforts are needed. If there is some laxity on the population front, even high levels of production will not be able to provide economic adequacy to the people.

It is, therefore, urgent that as an immediate measure re-productive couples are expeditiously exposed to the correct orientation and if necessary to the proper clinical devices. The ADULT EDUCATION PROGRAMME started 2 years back for the benefit of the illiterate population in higher age-groups has to be properly orientated to make it more relevant from both the angles, that is less population and more production. Legislative and punitive measures cannot bring about permanent results. Citizens in the higher age-groups have to be made conscious through intellectual motivation, of the urgent need of less population and more production, and work for it.

The lower age-groups of population can be divided into (a) school-going children (b) college and

university going children and (c) out-of-school youth. All the three categories have to be exposed to the various dimensions of population growth so that when the time comes for them to act, they are in a position to take correct decisions and contribute their best to the economic growth of the country.

However, those young men and women belonging to the age-group 16 to 21 studying in colleges and universities have to be treated as a special category because in the very near future they will be asked to provide leadership in all walks of life and most certainly population control and maximisation of production will be important areas of work for them. No doubt this is a comparatively small group at present but with more facilities for non-formal education, the number of people coming in for higher education is bound to increase; But it is a very potent group.

Young men and women falling in this category (16 to 21) are sufficiently mature, knowledgeable and mentally alert. They can be told facts of life openly. Greater opportunities for discussion and debate are necessary to strengthen conviction. Opportunities, therefore, have to be provided in our universities and colleges to think deeply on the basic data and reach their own conclusions.

It may be possible to integrate the necessary orientation in some subjects like Economics, Sociology, Geography and even languages. It may also be possible to have population education as an optional subject just like classical languages etc. for the undergraduate courses. However, it is more important to include such programmes in the ordinary cultural & social and educational activities being carried out in our educational institutions. It is, therefore, desirable that some sort of forum is started in institutions where regular lectures, film shows discussions, debates, self-study etc. on relevant subjects are arranged from time to time. In some universities and colleges in the country although their number is very small, population education Cells/Clubs have been started in some cases with financial help from the Family Planning Association of India, and other such social organisations. The problem is colossal and universities and colleges will have to depend mainly on their own resources.

It should be possible to divert some part of the amalgamated funds to this programme. As an alternative it may be possible to levy a small club fee and use the material available. As far as the establishment of special cells/clubs is concerned we need not be very ambitious. A very modest beginning can be made through the initiative of one or two interested

(Continued on page 516)

*Consultant, Correspondence Education, Panjab University.

Sociology of Violence

—Roots in Political Culture

S. C. Dube*

The Indian political system is under strain. In responding to the emerging social reality it has had to make many adjustments and concessions, which created a deep and wide chasm between its ideological postures and operating realities. The increasing growth of violence in the country is a by-product of its convoluted political culture.

The inadequacy of the system to deal adequately with economic and social problems generates a climate in which violence prospers. Its failure to hold in check recurrent violent conflicts promotes facile rationalisations of the situation rather than its firm handling. And there is unmistakable evidence that violence is being used increasingly as an instrument of political mobilisation.

The situation today is grim but its implications for the future are horrendous. The rate at which faith in the institutions of society is being eroded calls for deep thought and effective remedial action. The goals of society are blurred and the legitimacy of the accepted instrumentalities for their realisation is under a severe test.

The idea that the traditional Indian society was characterised by harmony and absence of violent conflict is a self-hallucinatory myth. Aggression, exploitation and violence—overt and covert—have figured in Indian life for a long time; at any rate in the past that is relevant to the contemporary generation. Absence of public outrage and dramatic highlighting by the mass media did not signify their non-existence. The situation has changed, however, in one significant way.

Earlier, the victims of violence were too weak even to protest. Now they are more assertive and do not take gross injustices lying down. Of course, the crisis is not media made. They media have a watchdog function. They must report happenings of this kind. Even the elite can no longer dismiss such incidents as trivial. By focussing attention on them the media generate anguish and concern.

There are reasons to believe that the volume of violence is increasing. The roots of this growing violence lie in the emerging political culture. The fact that unprincipled pragmatism has led to the erosion of political values is undeniable. The line that marks off the right from the wrong, in the arena of political action, is barely visible; often its demands can be ignored with impunity.

Muscle power is an important factor in contemporary political life. Though it is explicitly condemned by all political parties, it is nonetheless used, in varying degrees, by all of them to gain some short-run political objectives. Alongside of corruption, the

use of violence as an instrument of political action is being perfected into an art.

Personalisation of politics leads to emergence of populist techniques for the stabilisation and routinisation of political and personal charisma of leaders at different levels. The intellectual approach to problems and their solutions is held suspect. This helps in investing added legitimacy to the new additions to political cadres who enter the higher chambers of decision-making via political intrigue and manipulation rather than through sustained study and service.

Many of them have little aptitude or training for solving problems. All too conscious of their newly gained power and position, they even lack the humility to ask for and gain by expert opinion and advice. In consequence, much of the political activity lacks, perspective and vision. Focussed on the fire-fighting operations of the day, it has little time or capability to contemplate and initiate anticipatory steps for the future. The factors that are likely to contribute towards intensification and recurrence of violent conflict in the foreseeable future go unattended.

Let us briefly examine the social, cultural and psychological factors that underlie deviance and violence in our public life. It is sad but true that the contemporary ethos is characterised by an ambivalence towards social norms. In some sectors of life conflicting norms appear to co-exist. In the absence of firm indicators for action one is tempted to pick up the most convenient option in a given context and rationalise it easily.

The resultant normative conflict often manifests itself in violence—instant or delayed. Cosmetic endeavours to ease the tensions do not eradicate the malady at its roots. Its potential for conflict, thus, remains unimpaired. Weak enforcement of norms results in the gradual erosion of the credibility of the law enforcement agencies. Today, the police as well as the magistracy and the judiciary are held suspect and not without some valid reasons. Glamourisation of violence leads to distortions in the process of socialisation.

Traditional norms are still articulated and projected as ideals, but the sanctions behind them are feeble. On the contrary, the short cuts promise quick and rich returns and many of them have tacit, if not explicit, social approval. What may be regarded as deviance in the wider society, in the conventional sense, is to some groups the legitimate mode of action. Also, victims of aggression and violence unwittingly co-operate by concealing the wrongs done to them, for a variety of social and cultural reasons. A combination of these factors is operative today to aid and abet violent conflict.

Three factors in the immediate context are important. The first is the iniquitous and therefore frustrating, want-get ratio. The poor performance of the polity has not enabled people to realize even a fraction of the hopes and dreams generated by the revolution of rising expectations. At the same time an impression has gained ground that the payoff of the politics of protest and violent conflict is greater than that of the politics of constitutional channels.

(Contd. on page 516)

*Former Vice-Chancellor of Jammu University.

Role of universities in developing societies

It gives me great pleasure to take this opportunity to pay my tribute of appreciation to the Government and the people of India for their contributions to Unesco's efforts in promoting international cooperation in the field of education, science, culture and communication. Such contribution, born of a common understanding, is specially valuable at the present time when the community of nations must forge new relationship among themselves in order to face the exceptionally complex problems which are clearly manifesting themselves in so many spheres. The most serious of these problems are those which relate to poverty and deprivation and to economic and social inequalities. Unesco's action in this regard is then to satisfy people of the imperatives and application of the new International Econo-

the developing countries have in this regard a special role and responsibility, namely to take part in developing scientific and technological education under this on a wide base. Concerning research, it is important to stress that the academic distinction sometime made between fundamental and applied research are of little particular significance. Here what is needed, first and foremost, is problem-oriented research, whether fundamental or applied.

Another important problem is the domain of information and communication. Inequalities which characterise the present information and communication system generate inequalities in other domains in a chain reaction. A large majority of the member-States of Unesco desire the establishment of a new World Infor-

are one manifestation of the many-splendoured culture and civilization of India. The other aspects manifested by equally profound attainments in poetry, music, dance, drama, literature and philosophy evoke the tribute of respect. Tamil literature is justly claimed to be the best storehouse of some of the finest thoughts of man. It might be mentioned that Unesco, in its collection of representative works, have brought out several volumes such as "The Wisdom of the Tamil People" and a translation of 'Kural' and the song of the ring 'Silappadikaram'. There is yet another reason for my joy in visiting Tamil Nadu. I am struck by a number of remarkable common features between the people of my own native land, Senegal and the people of Tamil Nadu, cultural and linguistic, especially in my own mother tongue 'Valom'. I am happy to learn that comparative studies, cultural and linguistic, are being made by scholars. I have dwelt on the theme of cultural expression, because I feel that the appreciation of one's culture, which provide the basis of cultural authenticity to one's own socio-economic function, is the foundation for a form of cultural identity. The assertion of cultural identity is an assertion of indigenous development which have human values and social progress, and is a factor for forging a wider unity.

The University of Madras has been making an important contribution to the promotion of a cultural identity of the Tamil people in the fabric of a wider Indian culture. What is significant is that it has most appropriately combined with teaching, research, experimentation and extension function in a wide range of disciplines. To specialise its application to human development has resulted in Advanced Centres of Studies dedicated to the pursuit of excellence in research and teaching in Philosophy, Mathematics and Botany.

Excerpts from the speech of Mr Amadou Mahtar M'Bow, Director General of Unesco, delivered at the time of Special Convocation held at Madras University.

CONVOCATION

mic Order, and to initiate precise measures in the fields which lie in Unesco's competence. Such measures are focussing primarily on the peoples of the developing world who are most seriously affected by their problems. In the field of education, an important aim is to create in the people an awareness of the possibilities of their particular situation and to activate in them the will to change. Science and technology are indispensable as the means through which poverty and deprivation can be abolished. Indeed economic inequalities are to be found correlated to unequal distribution among nations of scientific and technological knowledge. Further development of scientific and technological capabilities in the developing countries, the exposure and improvement of the teaching of science at all levels of education are most urgent. Universities in

information and Communication Order, so as to ensure that all people will have not only adequate access to information, but more importantly, an adequate capacity to inform the world about their perception of their own situation and of world problems at large.

As regards culture, I had a chance in the last few days to come across the great works of devotion and art in your country and the universality of the aesthetic creativity so vividly displayed in the great temples. Not only do we admire the serene artistic grandeur of the magnificent temples of Tiruchirapalli, Madurai and Mahabalipuram, which stand out as eternal tribute to the pageant of a great civilisation, but we also bow our head in admiration to the spiritual vision which made this art possible. These temples, speaking through their complex and exquisite culture,

Delhi sets up committees to redress karamcharis appeals

Delhi University Karamcharis are likely to get protection as statutory committees are being formed at the university and college levels to receive appeals against any injustice done to them. At the last meeting of the Executive Council the composition of the committee of appeals both at the university and at the college level has been finalised. In each case the committee of appeals will consist of five members, three of them from a panel of names prepared by the Executive Council. None of these three will be persons connected with the university or any college and at least one of them will be a person with some judicial experience.

In the case of the university employed karamcharis the Chairman of the committee of appeals would be the nominee of the

were more or less on the mercy of the principals of colleges.

Osmania holds research methodology seminar

A one-day seminar on research problems and methodology in Hindi and Telugu was organised by the Linguistics Department of Osmania University. Scholars from all parts of the country participated. The seminar suggested that language research scholars should be given more rigorous training in the methodology of doing research. General consensus was that the research students must be trained to be able to reformulate the problems and evolve original solutions without depending on their supervisors. The supervisor's job is to see that the research worker has argued precisely without any contradiction, the theory he wants to establish and not to impose his own point of view. Prof. B. Krishna Murthy, who summed up

to other universities in India or abroad for higher education. It processes applications for post-graduate courses in British universities and also supplies application forms for the purpose.

Information and application forms for the graduate management admission test (G.M.A.T.), the graduate record examination (G.R.E.) and the test in English as a foreign language are provided.

The Employment Information and Guidance Bureau helps students in finding jobs. It informs students about employment avenues taking into account their interest and aptitude. The bureau imparts information regarding job opportunities in the defence services; competitive examinations held by the U.P.S.C.; self-employment avenues; the availability of various courses for students in foreign countries; occupations which are exclusively meant for women; careers and courses for higher education in India, occupations suitable for the physically handicapped and training facilities in Chandigarh.

There are facilities available in the bureau for giving individual guidance and information to students or visitors. One of the most important functions of the bureau is to assist the university students in getting part-time jobs locally with a view to helping the deserving ones financially.

Persons holding professional degrees or equivalent diplomas in engineering, medicine, veterinary sciences, technology, law, Science, Home Science, agriculture, except B.A./B.Sc., with B.Ed. and a master's degree or postgraduate diploma in other subjects or equivalent thereto are registered for employment assistance.

5-year law course at Madras

The Madras University Syndicate has accepted the offer of Rs. one crore from the Periyar Trust for establishing a hospital complex at Taramani and appointed a committee to prepare a project report.

The complex is meant to be a

CAMPUS NEWS

Vice-Chancellor while in the case of college karamcharis, the chairman will be a nominee of the Chairman of the College Governing Body. The fifth member will be a member of the Executive Council in the case of university employed karamcharis and one of the two representatives on the governing body of the college in the case of college appointed karamcharis. The Committee of Appeals will be the final authority for any decisions regarding termination of service or suspension of service. The committee will have the powers to re-examine the entire case and the necessary documents. The machinery for redressing any genuine complaints by karamcharis regarding arbitrary termination or suspension from service has been set up after a series of prolonged strikes by the karamcharis of the university. Until now the karamcharis

the proceedings of the seminar, stressed that every work of research should be able to show the extent to which it had advanced existing knowledge in the field. If it failed to do so, the goal of research had not been achieved.

The participants also felt that provision should be made to enable the research worker to have interdisciplinary training which his topic of research demands. Research workers interested in comparative studies of Telugu and Hindi literature should have knowledge of both the languages and should have an integrated approach to the topic.

Panjab organises guidance and counselling cell

Panjab University has a bureau headed by the Dean of University Instruction which gives information and guidance to those going

referral hospital as an adjunct to the Postgraduate Institute of Basic Medical Sciences attached to the university. The proposed hospital will train undergraduates and postgraduates in medicine and help research. The institute is expected to develop as a university medical college.

The members of the committee are : Dr. S. Gnanadesikan, Director of Medical Education, Dr. A. Venugopal, Dr. M. Natarajan, Mr. S. Vaiyapuri, Prof. P. S. Manisundaran and Mr. K. Veeramani.

The Syndicate has also accepted a proposal for offering a degree course in law of five years' duration after the plus 2 stage. This course is likely to be started from 1981-82. As a transitional measure, the three-year law course will be continued to be offered for three years.

According to another decision of the Syndicate, the pre-university candidates admitted to the medical degree course will be brought on par with plus 2 (higher secondary) candidates as regards the duration of the medical course, that is, four-and-a-half years. The preuniversity students must, however, study certain additional portions in physics, chemistry and biology along with medical subjects and secure a pass in these before they appear for part II of the first M.B.B.S. examination.

Karnataka to review college admission policy

The Karnataka Government is "reviewing" its policy of letting some private medical colleges admit students against donations rather than on merit. Union Government officials said today. The practice of charging huge sums as "capitation fees" for enrolling students has been in evidence at some private medical colleges in the State for many years. The rates have been rising all the times, particularly since engineering graduates began finding themselves with a job. Today, these colleges keep aside one-third of their seats for wards of affluent families willing to pay up to Rs. 1.50 lakh for a seat.

The practice puts at a disadvantage academically brighter admission seekers against those whose major qualification may be their parents' wealth. The Union Government has for long opposed the charging of capitation fees and time and again advised the State Government to scrap the system, officials said.

Karnataka to have two more universities

The Governor of Karnataka has given assent for starting two more universities at Mangalore and Gulbarga. A date has however to be fixed for the inauguration. The Education Minister, Mr. G. B. Shankar Rao, said in Bangalore that special officers have been appointed to take care of the preliminaries and the Vice-Chancellors, the Syndicate and the Senate members would be nominated shortly. The Minister said that the comprehensive education Bill was also ready and would be placed before the next session of the Legislature.

Patna to introduce Bhojpuri

Patna University is likely to introduce Bhojpuri teaching at the intermediate stage from this academic year. This was decided at a meeting presided over by Dr. Lal Saheb Singh, Pro-Vice-Chancellor of Patna University. Acharya Devendra Nath Sharma, Prof. Ram Bachan Roy, Dr. Gopal Roy, Dr. Shailendra Nath Srivastava also attended the meeting. A committee has recommended the adoption of a regular course but the recommendations are yet to be approved by the Academic Council.

Experts visit quake-hit Pithoragarh

A six-member team of experts from the Earthquake Engineering Department of Roorkee University led by Dr S. P. Gupta, made an extensive survey of earthquake-hit areas of Pithoragarh district and conducted detailed technical investigations pertaining to earthquake.

Dr. Gupta said that the entire belt extending from the Himalayas to Assam being in seismic zone adequate precautions were needed in construction of houses. He was of the view that two codes published by the Indian Standards Institute (IS 1893 and IS 4326) should be followed in such areas. Use of lintel and room-bends was vital in such constructions. Where the soil was unstable iron bars should be erected in wall foundation. IS 4322 contained detailed instructions in this regard.

Dr Gupta said that scientists were working on evolving a system of forecasting earthquakes. The recent earth tremors on July 29 last had caused extensive damage in Pithoragarh district killing six persons and injuring 13 others. As many as 1,600 houses were damaged 600 of them completely. Dharchula sub-division was worst hit where 1,100 houses were damaged. Of them 500 were destroyed completely.

Massive population education plan

The Government has launched a massive population education programme in the country in an effort to create an awareness in the younger generation of the importance of controlling the growth rate of population. Population education is accordingly being introduced as a subject in the formal education system. In furtherance of this programme, the Union Education Ministry has set up a national steering committee with overall authority for co-ordination and implementation of the programme at the national and state levels.

The committee, which is headed by the Union Education Secretary, has as its members representatives of the Planning Commission, Ministries of Health and Family Welfare and Information and Broadcasting, the University Grants Commission, the National Council of Educational Research and Training (NCERT), the Central Board of Secondary Education and the Family Planning Association of India. The term of the members of the committee will expire on March 31, 1983.

unless extended. The committee will advise the Union Government on all matters relating to the population education programme. It will review and evaluate from time to time the progress of the programme. Ten states have already taken up the programme this year and nine others will do so next year. The ten States and Union territories presently participating in the programme are Bihar, Chandigarh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan and Tamil Nadu.

Adult education programme to be redrafted

The Government will soon revise the national adult education programme redrafting it with a new orientation.

The decision is a sequel to modifications suggested by a review committee as also shortcomings noticed in the working of the programme. There was criticism that the programme had turned out to be a mere literacy campaign, no more linked to the developmental effort. Certain communal organisations were entrusted with the responsibility for the programme while many other organisations of workers, peasants, youth and teachers remained excluded from it.

The programme was also regarded excessively bureaucratic.

Apart from the criticism, the Government also had before it the report of the review committee under the chairmanship of Dr. D. S. Kothari, former Chairman of the University Grants Commission.

The Kothari Committee recommended that the adult education programme should become an integral part of the minimum needs programme and that illiterate population between 15 and 35 years of age should be covered under the programme in the shortest possible time.

A group of officials examined the review committee's report and endorsed the recommendations to link the programme to the minimum needs scheme and to cover the 15-35 age group with speed.

Taking an overall view, the Government is understood to have decided to screen the list of organisations so as to eliminate communal organisations from the purview of the programme.

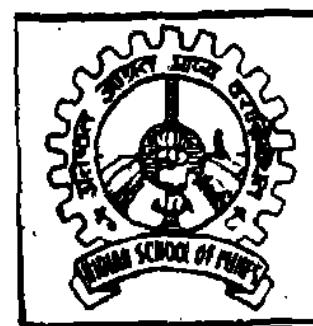
Punjab weightage for armed personnel

The Syndicate of Panjab University has decided to give a weightage of 3 per cent to the members of the defence forces including ex-servicemen at the time of admission to the university. It has also decided not to admit more than 20 students to the LL.M. (Pt. I) course during this academic year. The Syndicate also decided that the re-valuation may be done under the old rules. The university would

be setting up a library-cum-guided study centre at Amritsar for the benefit of students of correspondence courses.

Bihar to make physical education compulsory

The Bihar Government is taking necessary steps for the promotion of physical education in the State. It was being contemplated to introduce physical education as compulsory subject in schools and colleges. This step would give a boost to the physical education in the State. The Bihar State Physical Education Teachers' Association has been demanding reservation of jobs for unemployed physical training instructors and promotion of physical education in colleges and universities.



Indian school of Mines

DHANBAD-826004

No. 615126/80

Dated Aug 25, 1980

Admission to Make-up Semester of Adv. dip in Mine Surveying—1980

Applications are invited from IN-SERVICE candidates possessing requisite qualifications for admission to MAKE-UP SEMESTER of Advanced Diploma Programme in Mine Surveying being offered by the School, which is deemed to be a University under UGC Act. This make-up semester (16 weeks) is in addition to the regular one-year course and shall commence from 1st Dec. 1980.

2. **Eligibility conditions:** Matriculation/SSLC with Mine Surveyors Certificate of Competency granted under the Mines Act Plus one year experience as surveyor in underground mines after obtaining the said certificate.

Maximum Age Limit is 45 years.

3. Preference will be given to sponsored candidates. Sponsorship in this context means retention of lien on post and grant of suitable allowances. Application of sponsored candidates should carry suitable endorsement to this effect by the employer.

4. Application forms, along with the relevant information bulletin, can be obtained by sending a Bank Draft/Crossed Postal Order for Rs. 5/- made payable to the Registrar, Indian School of Mines, Dhanbad-826004.

LAST DATE FOR RECEIPT OF APPLICATIONS:
OCTOBER 18, 1980

S.P. VARMA
REGISTRAR

Prophetic role of agricultural universities

There have been many studies of the development challenges that we face in the years ahead. But the most recent—and perhaps the most striking, owing to the prestige of its authors—is the report entitled "North-South : A Programme for Survival". This was released by the Commission led by former Chancellor Willy Brandt.

The report obviously goes beyond food and agriculture. It covers energy, population, international monetary structure and aid. But hunger and rural penury are at the core of the document because this is where human anguish is at its most excruciating. "Poverty goes hand in hand with hunger", the Commission says in its chapter on Hunger and Food. "Compassion, solidarity and self-interest call for the urgent abolition of hunger. Yet progress has been stumbling and slow".

The report describes a belt of poverty where the disparities between rich and poor are not only wide but continuing to move even further apart—threatening to be unbridgeable. Countries of the North, have only one fourth of the world's population. Yet, they possess four fifths of its income. In the nations of the South, about 800 million people are destitute. Half of these are in Asia—many of them in India. FAO figures show that food production, in all developing countries, rose by over 2½ percent annually between 1950 and 1975. But demand for food has, in the same period, increased by well over 3 per cent a year, as population and incomes accelerated. Des-

pite the onset of fertility declines, Asia will continue to be burdened by the momentum of rapid population expansion. This pace was largely set between 1950 and 1975. Most countries in this Region will, like it or not, see their populations double. Thus, the pressure of increasing populations upon the food-producing potential of our world will remain enormous.

Statistics, as you know, have a capacity to strip facts of human meaning. Yet, we cannot afford to forget that these figures represent human life, with potential for material and spiritual achievements. Yet, most of them will probably never be able to break forth into creative productivity, since mass poverty will abort this rich human potential. A full three quarters of Asians, as you know, live in rural communities. Almost 500 million are small farmers or landless labourers living in squalid poverty. Within this group, 100 million are shifting cultivators who slash-and-burn to survive. Over 270 million of these poverty-stricken people are concentrated here in South Asia. Recent development literature characterized them aptly as "marginal men". Malnutrition saps their bodies. And premature death is no stranger to their households. Lack of education seals off what shreds of hope they cling to for less drudgery. Your economic history classes in this University will have shown how the conventional wisdom in the 1960s and 1970s dictated that scarce resources be channelled to urban enclaves. Agriculture was given short shrift. It was then argued

that benefits would ultimately "trickle down" to these impoverished men, women and children. They never did. Poverty spread and encircled pools of urban wealth, threatening to swamp them with uncontrolled migration. Yet, the paradox is that the burden of producing the food that our spiralling populations require, rests on the shoulders of these frail men. It is a non-transferable burden.

The question asked often today is: Can Agriculture in the Region provide the food, the raw materials, the education, the jobs and other amenities, over the next 20 years when density could well be over 275 persons crammed into every square kilometre in many countries? Viewed in a wider setting, can the world's farms feed the people of tomorrow? The answer is yes. Scientists agree that the main constraints that cripple agriculture are man-made. The Leontif report, for instance, on the *World Economy in the Year 2000* stresses that the principal limits "to sustained economic growth and accelerated development are political, social and institutional in character rather than physical". Within the 20th century, there are no insurmountable physical barriers that bar the poor countries from working their way out of perpetual poverty and hunger. This conclusion is also reflected in the major study that I directed FAO to undertake, namely: *Agriculture: Toward 2000*. We have done both the global perspective and drawn the regional implications of those perspectives. *At 2000* uses sophisticated economic modelling tools, setting out normative and trend scenarios. These examine the feasibility of a policy goal all nations are agreed upon: To arrest a deterioration in self-sufficiency of basic foods and provide enough food for all tomorrow. It also works out in detail some of the implications of a sharp improvement in food production over the next 20 years. *At 2000* indicates that this Region has the potential to solve its food problem. It could raise its cereal self-sufficiency ration from

today's 93% to 97% by 1990—and sustain it at level clear up to the year 2000.

Obviously, this would call for efforts we have not mustered so far. Investments would have to be doubled. Inflow of technology, from agricultural schools and other sources, must accelerate. Policies that drag back rural development would have to be recast. Above all, we must find ways and means to unlock the productivity potentials of the millions of small farmers and landless sharecroppers. Such an objective requires dismantling of oppressive socio-economic structures. It calls for access by farmers to land, water, credit and other vital inputs. It demands protection of their rights to organize. It requires implementation of agrarian laws that are honoured more in the breach. All these have been summed up in the Declaration of Principles and Programme of Action drafted by the World Conference on Agrarian Reform and Rural Development. And the goals are worth the effort. By 1990, average calorie intake could slightly exceed nutritional requirements. By 2000, it could well be 13% higher. It would mean the impoverished will have moved to more humane standards of living. But the testing time is ahead. We have to see whether action matches needs and aspirations. The World Conference realized that there is no substitute for the effective monitoring of programmes. Monitoring calls for more precise definition of programme objectives. We need to establish better criteria. We must also develop mechanisms for effective evaluation. In the view of experienced fieldmen, this would involve participatory evolution. This means allowing village people or other programme beneficiaries to pass judgement on our work. It is here that an agricultural university can make a positive contribution. It can make its scholarship and resources available to help monitor progress—or the lack of it—towards agrarian reform or other agricultural and rural development objectives. In so doing, the University can help reinforce a sense of accountabi-

lity in development agencies. It is this concept of accountability that distinguishes the paternalistic from the participatory programmes. Responsibility for ensuring that reform measures are translated into realities, tangible to the farmers, rests to a large extent upon institutions like this University. What should probably engage increasingly the attention of our agricultural universities are the subtle but very real non-technological barriers to a production breakthrough. Programmes must be effectively decentralized to tap local initiative and innovativeness. They must build on indigenous institutions and respect local cultural values. FAO experience in Asia, for instance, shows that many rural development programmes tend to drift willy-nilly towards solely technical improvements: increased yields and reduced costs, mechanization, huge irrigation systems, and fertilizer inputs, etc. But the subtle social undercurrents, that run below the surface, were likely to be overlooked. That experience also shows that all too often, efforts concentrate on delivery services to farmers. But few help the farmers develop their "receiving mechanisms" for such services. There is, too, a glaring need to identify and nurture social leadership and organizations in adapting new technology in the village—a role that agricultural universities can support. There is no disagreement on the need for such re-examination. It is always helpful to periodically restudy our basic premises.

How then can our educational systems be reshaped? Can our agricultural universities move deliberately into a policy of serving—not merely the fittest—but helping the weakest? Such a direction, it seems to me, would be in keeping with Mahatma Gandhi's tradition of seeking out the lost, the lowest and the least. The life of the Asian farmer is exceedingly complex. Also, there are sharp differences in the perception of decision makers or educators and villagers. This difference persists because many of our faculty and students rarely have the opportu-

nity to look beyond the needs of their "model" farmers. This is aggravated when faculty members tend to teach and research on what is fashionable internationally. This attitude alienates the scholar from the realities of Asian agriculture. This alienation is an occupational hazard and arises partly from attitudes and temperament developed in advanced training. Many, therefore, scoff at the idea of peasant-based and oriented scientific research that seek out deliberately peasants' participation. There are a few universities in Asia that now welcome experienced peasants into their faculties and experimental farms. But they are the exception. Most insist this is a job for a trained elite. This view is unfortunate. It constricts the peasants to the category of research subjects. Their wisdom remains untapped. And the researcher plans for them, thinks for them—and even commits mistakes for them. I do not deprecate scientific methods. My long years in training and research institutions have taught me these qualities are essential. What I wish to emphasize here is that our academic practices should not produce small elites alien to the people they are supposed to serve. In the future, our educational efforts will have to stress problem-solving processes whereby people learn from each other—and discover their own potential. Agriculture, after all, is basically an applied science. And the hierarchical separations between professor and student will probably have to be recast, if we are to uncover the potential latent in the small farmers. Ultimately, the strength of an agricultural university—in the Third World—rests on its identification with programmes of, for and by the rural poor. With this identification comes what has been called the "prophetic role" of the agricultural university. It becomes the voice for the silent masses and a beacon for our people.

[Excerpts from the address delivered by Mr. Edouard Saouma, Director-General of the FAO of the United Nations at the Punjab Agricultural University.]

Commonwealth Prime Ministers visit IARI

The two Commonwealth Prime Ministers, Mr. T. Louti of Tuvalu and Father Walter Lini of Vanuatu who attended the Regional Commonwealth Conference held recently in New Delhi also visited the Indian Agricultural Research Institute. They were shown by Dr. H.K. Jain, Director of IARI, the high yield production technology which has helped to bring about a major transformation in Indian agriculture during the last 14 years. The visiting Prime Ministers showed considerable interest in the high yielding varieties of rice, maize, sorghum, millet and pulses, which were on demonstration on the Institute's experimental farm. They commented favourably on the new rice varieties which combine a very high yield potential with early maturity and excellent grain characteristics approaching those of India's traditional *basmati* rices. IARI is a leading centre in the world where efforts have been made to combine high grain yields with quality characteristics in rice varieties.

The Prime Minister from Tuvalu was impressed with the fact that a great deal of new agricultural technology which is being developed at the Institute is relevant to the needs of small farmers. He showed particular interest in the intensive cropping patterns which have been evolved by the Institute for very small land holdings, keeping into consideration the needs of different groups of farmers specialising in dairying, vegetable production and production of foodgrains. Father Walter Lini also showed interest in the biogas plant whose latest models were on display. IARI was the first institution in the country to develop the biogas technology and its scientists are now working on community biogas plants so that the needs of an entire village where farmers have only one or two cattle could be met from the pooling of their resources.

Krishi Vigyan Kendras reviewed

The third All-India workshop

on Krishi Vigyan Kendras (KVK) was held in Pondicherry to review the progress made by the kendras during the last year and plan next year's programme of training of practising farmers, farm women, young farmers and others under this innovative scheme. Besides scientists and officials from the Indian Council of Agricultural Research, two participants from each of the 31 kendras participated in the workshop which was organised in the premises of the first Krishi Vigyan Kendra established in March 1974.

The KVKs have so far organised 2,769 training courses upto June 1980 and trained 63,420 farmers—both men and women—in various skills in the fields of crop production, livestock production, fisheries, agricultural engineering, home science and horticulture.

Along with the KVKs, the Trainers' Training Centres (TTC) which impart practical training to the teachers and trainers of the kendras, have so far organised 142 training courses in which 1935 trainers and extension workers took part. There are seven TTCs in the country.

The Krishi Vigyan Kendras (Farm Science Centres) were established by the ICAR to fill the gap which existed between the vocational training needs of the farmers and the existing training facilities so that effective transfer of modern technology evolved in the field of agriculture could pass on to the farmers. The KVKs impart training to practising farmers, farm women, school drop-outs and in-service development staff at centres located in the heart of rural areas so that they can use to their best advantage the scientific know-how in the field of agriculture, horticulture, fishery and allied subjects.

The KVK's do not award any degree, certificate or diploma to the participants because the idea is not to turn out yet another group of white-collared job-seekers through this training. The prime method of training in the KVK is through the work experience in which the trainees practise skills by doing what they are

expected to do on their own farms. Unlike the usual lecture and notebook dominated training courses, KVK training programmes take into account all methods and means which result in skill development.

There are no fixed syllabi either. The training is based on the felt needs of the farmers which are of immediate relevance and are tailored to the needs of the practising farmers. They are determined keeping in view the particular group of trainees—their back-ground, interests, needs, resources.

The National Commission on Agriculture has recommended that at least one KVK should be established in every district (there are about 400 districts in the country) by the end of the Sixth Plan, and three each by the year 2000. The ICAR proposes to set up about 100 KVKs by the end of the plan period. More centres will have to be established by the Government.

Existing KVKs maintain linkages with agricultural colleges and universities in the area, ICAR institutes, and rural development organisations run by voluntary agencies. Preference is given to hilly, drought-prone, forest, flood-prone and coastal areas and those dominated by Scheduled Castes and Tribes in setting up the KVKs.

Ultimately the KVKs are expected to provide training facilities dealing with all aspects of rural life and support the integrated rural development movement.

AAU's research committees meet at Jorhat

The Assam Agricultural University is fully charged with State-wide responsibility for Agricultural Research in Assam. The research planning for faculty level is done in each faculty by the various subject matter discipline research committees. This year's Research Committee meetings for the Agriculture and the Home Science faculties were held at the University Headquarter at Jorhat. The

meeting was inaugurated by the Vice Chancellor Dr. D.N. Borthakur. In his inaugural address Dr. Borthakur underlined the need for multi-pronged efforts by University Scientists to step up agricultural production keeping in view the rapid rate of population explosion. The Vice-Chancellor made special mention of need for research in fisheries, recycling of agricultural wastes for increasing productivity and integration of crop and livestock farming.

Earlier the University's Director of Research Dr. B. C. Barthakur made a review of research work done and achievements made. The Director of Research outlined the major thrusts, strategies, problem areas and priorities for research in agriculture. Relevance of research programmes for the needs of the State, excellence in their execution, farming systems approach for research, a long term view for increasing productivity, conservation of plant genetic resources interdisciplinary approach for solution of problems and avoidance of duplication of efforts were mentioned as watch words in the formulation of research programmes by Dr. B.C. Barthakur.

The inaugural meeting was attended by more than 200 scientists drawn from the University's Regional Research Stations and the University Headquarter. The faculty of Home Science is convening its research committee meetings for the first time under the Chairmanship of its Dean, Dr. Anwar Saikia. The faculty of Veterinary Science is going to convene its Research Committee meetings during the first week of September.

New courses at APAU

Andhra Pradesh Agricultural University has for the first time in the country introduced rural work experience programme for one semester for B.Sc. (Agriculture) final year students.

Mr. J. Raghatham, Vice-Chancellor of the University said in Hyderabad that in all 232 final year students had been sent on

July 1 to villages under 29 research stations throughout the State. The duration of the programme will be for one semester or about four months of the total eight semesters required for their degree programme.

The objectives of the rural work experience programme were to provide opportunity to students to live in rural areas and develop right perspective of rural life, to gain first hand experience in the application of agricultural technology on the farmers fields and to develop communication skills in students to do better agricultural expansion work.

This plan was jointly sponsored by APAU and the Department of Agriculture. The students would stay and work in the villages by associating themselves with all the farm operations of the farmers. During the period of their stay in the village the students would be provided with stipend of Rs. 175/- to meet part of their living expenses.

The university was also introducing seven composite interdisciplinary courses in production technology of pulses, commercial crops, horticultural and other branches of agriculture. These practical courses were the first of their kind to be introduced for the first time in the country. APAU had also introduced common examinations for all its constituent colleges from the last academic year. It has also introduced entrance examinations for M.Sc. (Agriculture) and B.Sc. (Home Science).

JNKVV evolves highyielding Kodo and Ragi

With a view to improving upon the economy of the tribal people, Jawaharlal Nehru Krishi Vishwa Vidyalaya has evolved highyielding varieties of minor millets which are their principal crops. The new varieties are : Kodo JNK 101 and JNK 364 and Ragi (Madua) JNR 1008 and JNR 852. These have been found the best in the trials of the ICAR Coordinated Re-

search Project. Kodo JNK 101 has already been released for general cultivation by the Madhya Pradesh State Variety Release Committee. The rest are in the pre-release stage.

Kodo JNK 101 matures in 95-100 days and yields 12-14 q/ha. Kodo JNK 364 matures in 106 days and yields averagely 16 q/ha. Ragi JNR 1008 is an early variety (110 days) and yields 22 q/ha. Ragi JNR 852 matures in about 115 days and yields 25 q/ha.

Even during the last drought conditions, the new varieties have given good performance. On the Chhindwara and the Durg experimental fields Kodo JNK 364 yielded 8 q/ha and Ragi JNR 852 yielded 16 q/ha.

The local Kodo varieties in vogue in the tribal tracts averagely yields only 3 to 4 q/ha and Ragi 8 to 10 q/ha.

Personal

1. Prof. K.S. Shastri has taken over as the Vice-Chancellor of the South Gujarat University.
2. Shri Anand Sarup has taken over as the Vice-Chancellor of the G.B. Pant University of Agriculture and Technology.
3. Mr. M.A.M. Gilani, former Vice-Chancellor of Bhagalpur University and former Chairman of Bihar School Examination Board, has been appointed Chairman of the newly constituted Bihar State Intermediate Council.
4. Prof. Mohammad Shafi of Aligarh Muslim University and Chairman of the Indian National Committee led the 15-member delegation of eminent Indian geographers at the International Geographical Congress held in Tokyo.

New from UGC

Need for national law institute

A series of regional workshops, organised by the University Grants Commission for modernisation of legal education has recommended the setting up of a National Institute of Legal Education. The main objectives of this Institute will be to provide teacher training and faculty improvement programmes. The Institute will also act as a data bank as well as an evaluation agency for the teaching of law.

Pending the establishment of the Institute, the workshops suggested the holding orientation courses in at least 10 to 12 major subject areas in order to make the law-teaching system essentially a problem-posing one.

Experts from various universities, who participated in these workshops, felt that the examination papers should also gradually pose "problem" questions. Also, question banks should be developed to check students' reliance on cheap cram books.

The workshops have urged that legal education should be primarily in the hands of duly qualified full-time law teachers. They wanted courses dealing with law, social justice, and agricultural development to be added to the LL.B. curricula. The focus should also be on the problems of under-privileged and vulnerable groups in society including the Scheduled Castes and Scheduled Tribes. The experts were against admission of part-time students to LL.M. courses.

The report has recommended that the system of internal assessment should be introduced for law examinations. Also, two compulsory foundation courses dealing with the law and problems of social change in India and social science research methods should be introduced for

LL.M. students. With the addition of these courses, LL.M. should be treated on par with M. Phil.

UGC surveys higher education in states

A recent UGC survey has revealed that more than 57% of the affiliated colleges in the country have less than 500 students on their rolls. These economically non-viable colleges in nine major States—Andhra Pradesh and Punjab (109 each) Assam (106), Bihar (133), Karnataka and Madhya Pradesh (154 each), Maharashtra (231), Tamil Nadu (91) and Uttar Pradesh (182)—have been a drag on higher education.

Only three colleges, one each in the universities of Agra, Meerut and Calcutta, have more than 5,000 students each. As against this, 1678 (nearly 57%) affiliated colleges out of 2923 have less than 500 students, 297 colleges less than 200 students, 520 more than 100 but less than 200, 300 more than 200 but less than 300, 269 more than 300 but less than 400 and 232 colleges have more than 400 but less than 500 students. The UGC is helpless as opening of new colleges is exclusively a state subject. With rising unemployment among the graduates and postgraduates the number of students going for higher education is still rising in the backward States like Bihar, Orissa, Assam and Madhya Pradesh. The study reveals that in all the States, except West Bengal, the percentage of students going in for higher education in the relevant age group (17-23) was below 3%. The increase varied between 3% in Bihar and 23% in Karnataka and Punjab followed by West Bengal with an increase of 21.

The number of students per thousand of population came down in five States of Assam, Bihar, Karnataka, Kerala and Madhya Pradesh. Viewing such

a situation against the rise in the number of graduate and post-graduate job-seekers by an alarming rate of 27% the study drives home the point that there are imbalances in the present educational pattern. As early as 1964, the Commission had warned against the growing regional imbalances. It said that at the national level it should be regarded as the responsibility of the Government of India to secure equalization of educational development in the different States. The necessary programme for this including special assistance to the less advanced States should be developed. Yet another despairing note of the study has been the fall in the number of women students taking to higher education. During 1970-75 the highest increase in the number of women students going in for higher education was recorded in Gujarat (13.5%) followed by Maharashtra (9.9%). The lowest rate however was in Kerala (0.14%) while in Bihar it was negative (-3.4%).

Contrary to past practice, there has been a change in the pattern of higher education and subjects such as education and law have acquired priority because both provide self-employment. Students going in for science and medicine appeared to be a thing of the past. Interestingly, the faculties such as agriculture, engineering and medicine recorded a growth rate of only 2.4% between 1970-71 and 1975-76 as against 3.6% between 1965-66 and 1970-71. This clearly indicated that the desired pace of expansion was still lacking in these fields. At the same time the percentage of students going in for postgraduate courses and for research have also been on the decline.

Awards for Gandhian studies

To promote research in Gandhian thought, the University Grants Commission has awarded three Research Associateships. These awards are given to holders of Ph.D. degrees or to those who have equivalent research work or field experience to their credit.

The Associateships are normally tenable for three years, which can be extended by two years. The awards are in three categories—of Rs. 1000, Rs. 1200 and Rs. 1400 each per month with a contingency grant of Rs. 2000 each per year. The candidates selected are :

- (1) Dr. Mrs. Shila Sen—Jawaharlal Nehru University.
- (2) Dr. Antony Chrispanath—Karnatak University.
- (3) Dr. B. Prasad Pradhan—Utkal University.

The Commission has also awarded two junior Research fellowships of Rs. 400/- each per month for Gandhian Studies. The fellowships are tenable for four years. The value can be raised to Rs. 500/- per month, after an assessment, on completion of two years.

Panels for syllabi revision

Expert panels, set up by the University Grants Commission for revision of syllabi in various subjects, have drawn up broad lines of development, including priority areas of research. In sciences, some of the disciplines have been grouped together in a single panel. A number of special committees have been set up, in addition to panels for sciences. The recommendations of these panels for revision of syllabi include perspective plans for improvement of teaching also.

The Commission has already issued guidelines to universities emphasizing that the restructuring of courses should ensure that at the undergraduate stage they are more relevant to the rural environment and to the development needs of the community. They should also provide linkage between education on the one hand and field work, practical experience and productivity on the other. A set of foundation courses has also been suggested to the universities for inclusion in the curricula dealing with the history and culture of India as well as that of selected countries in Asia and Africa. Population education, besides concepts and processes of development and Gandhian thought, will also form

part of the proposed foundation courses.

Correspondence courses in every state

The University Grants Commission has accepted in principle the proposal of Calcutta University, one of the oldest universities in the country, to start correspondence courses leading to B.A. & B.Com. degrees. The Commission has approved in principle a similar request from Patna University as well. With these, almost every state in the country

will have facilities for correspondence courses. Also, a majority of universities are permitting students to appear privately at their examinations.

The universities offering correspondence courses are Allahabad, Andhra, Annamalai, Bhopal, Bombay, Delhi, Himachal Pradesh Jammu, Kashmir, Kerala, Madurai, Meerut, Mysore, Osmania, Punjab, Punjabi, Rajasthan, S.N.-D.T. Women's, Sri Venkateswara, Udaipur and Utkal besides the Central Institute of English and Foreign Languages, Hyderabad.

News from ICSSR

Alternatives in development : An invitation for research

For quite some time, the Indian Council of Social Science Research (ICSSR) has been engaged in developing a major research programme under the broad perspective of 'alternatives in development'. A major concern has been to initiate some re-thinking on our developmental model. A sense of failure and inadequacy haunts our diagnosis of India but it seems that modern societies of all varieties are experiencing serious constraints in translating their utopias into realities. Can there be a general theory to explain this limitation, and are there any alternative paradigms to move from crisis to hope ?

The ICSSR is keen to promote research in this area and would welcome ideas, comments and suggestions. These need not necessarily be spelled out in great detail, but if they are, this would be welcomed. Any research proposal that suggests a new line of enquiry, a new kind of critique or a possible alternative can be considered for support from the Council. These proposals may seek to study the nature and magnitude of different types of crises in contemporary societies, the potential and limits of social

science theories to understand and explain such crises, and the successful or even failed alternatives offered now or in the past to meet these crises : a vision worked out or tried by some individual, a citizens' movement pushed by voluntary efforts or by established political parties, or a new policy line adopted by a corporate institution or even a government in India or outside.

Our idea is to generate a fresh debate among social scientists : Is meaningful intervention possible in modern times to change the quality of life in this country, in the Third World, or in the industrialized West ? If the answer is 'yes', what are the intermediate steps needed to bring about this change ? Can the conventional social science, imprisoned by its own history and culture, meet this challenge ? Is there any alternative ?

The ICSSR is prepared to fund research projects, award fellowships, finance seminars and workshops, and even provide assistance for documentation to explore these questions.

Your suggestions may kindly be addressed to : Dr K. P. Gupta, Hon. Director, Programme on Alternatives in Development, Indian Council of Social Science Research, IIPA Hostel, Indraprastha Estate, New Delhi-110002.

Science & Technology

Five-point plan for Science, Technology

The Department of Science and Technology has drawn up a five-point programme for 1980-81. They are intensification of research work in high priority areas, schemes for development of the Scheduled Castes and Scheduled Tribes in science and technological areas, promotion of scientific interest in youth, assistance for development of councils for science and technology, and promotion of technical co-operation among developing countries.

An increased allocation of Rs. 36.87 crores has been made in the budget proposal for science and technology. The previous government had earmarked Rs. 33.31 crores for 1979-80, but later it was revised to Rs. 28.14 crores. The increase in the budget estimates for 1980-81 is mainly on account of the provision of Rs. 4.1 crores for payment of the first instalment for the Oceanographic Research Vessel, and an increased provision made for ongoing schemes such as new energy sources.

The Oceanographic Research Vessel for the development of non-living resources is proposed to be acquired with the assistance of West Germany.

The budget also includes a provision of Rs. 2.25 crores for R and D work on new energy sources such as solar energy, wind power and biogas.

During 1980-81, apart from continuing work on ongoing schemes, it is proposed to undertake work on a pre-commercial pilot plant and demonstration for techno-economic viability of solar photovoltaic power sources and systems for remote areas, as also a prototype-cum-product developments venture for solar thermal applications.

The proposal reveals that the first phase of the new fibres and

composite project taken up with the United Nations Development Project (UNDP) assistance was nearing completion.

During the current year, work will be continued on two projects—one relating to production of carbon fibres and the other for the development of designs and moulding compounds. The budget estimates include a provision of Rs. 55 lakhs for continuance of these projects.

New turn to brain drain

Indian scientists and technical personnel going abroad now outnumber doctors. A few years ago, 50,000 doctors were serving abroad. There may still be an equal number of Indian doctors abroad but if official figures of enrolment are a guide, they are outnumbered by scientists and technical personnel. As on January 1, 1980, 22,320 people were enrolled in the Indians Abroad Section of the National Register. Of these, 5,203 were engineers and technicians, 3,744 scientists, 2,209 doctors and 11,164 social scientists and others.

Since enrolment is voluntary, the CSIR believes that the exact figure of people abroad will be much higher. But assuming that the percentage of enrolment for each group is the same. There must be many more Indian scientists in foreign countries than doctors. The USA accounts for 37% of those registered in scientific and technical fields. Britain 35%, West Germany 8.7%, Canada 6.1% and other European countries 7.6%.

About 53.8% of those in the USA have chosen not to return. The figure is 49.1% for Britain, 51.4% for West Germany, 61.4% for Canada and 41.4% for other European countries. There are 7,422 scientists, 1,305 technicians, 8,457 engineers and 4,510 medical men among those enrolled.

Among the steps taken by the Government of India to get Indian scientists and engineers to return to India is the creation of Scientists Pool. Up to now 9,889 have been selected for the Pool and of them 5,570 have returned to India. In the initial stages the flight of trained personnel was only to the countries of the West mainly the USA/Canada and Britain/Continental Europe. West Asia now accounts for a fair proportion of this flow.

Foreign News

UNICEF to sponsor area research project in thirteen states

A new three-year scheme of cooperation is being launched by UNICEF in 80 districts of 13 States as part of the Area Development Programme. The essence of this programme is to provide delivery services to children and women in a convergent manner. This concern has coincided with the Government's emphasis in recent years on reducing the regional disparity in the availability of social services and a grow-

ing recognition that economic development must seek to achieve social goals and objectives.

The three-fold objectives of the Area Development Programme are to improve the impact of child care services in limited well-defined geographical areas, raise the nutritional and health of young children and to enhance the capability of mothers to look after the physical and social needs of their children. So far, area development projects have been approved for UNICEF assistance in six districts of Andhra Pradesh, Maharashtra, Orissa, Tamil Nadu

Uttar Pradesh and West Bengal. The main action areas under the programme would be nutrition, health, sanitation, environmental hygiene and education.

UNESCO Commission being reconstituted

The Indian National Commission for cooperation with UNESCO is to be reconstituted. The Commission was last constituted in February 1978. According to UNESCO constitution it is open to the Government of India to dissolve and reconstitute the commission earlier than the four-year term. The Education Minister is the President and the Education Secretary, the Secretary-General of the Commission.

The Commission was set up in 1949 with the following functions: (a) to promote understanding of objects and purposes of UNESCO among the people of India; (b) to serve as a liaison agency between the Government of India and institutions concerned with the working for the advancement of education, science and culture; and (c) to advise the Union Government on matters relating to UNESCO.

UNESCO to extend teaching programme

The Unesco Director-General, Dr Amadou Mahtar M'Bow, said in Madras that Asian programme for innovation in education development sponsored by the United Nations Educational Scientific and Cultural Organisation has been successful and would be extended to developing countries in other regions of the world. This programme had helped to improve the quality of education with better teaching methods suited to local conditions. It had also enabled countries to exchange views directly and bridge gaps in mutual understanding. Dr M'Bow said that the conference of Education Ministers of Asia and Pacific some time back felt the need for vigorous implementation of the programme which he said had achieved important results. Unesco could help countries preserve their cultural and monumental heritage without detriment

to scientific development. Unesco would also lend a helping hand in the preservation of temples.

India participates in International Historical Congress

The 15th International Congress of Historical Sciences which met in Bucharest recently discussed peace problems, methodological questions and special themes in the chronology section. Five

prominent Indian historians took part in the deliberations. Dr Satish Chandra, Chairman of the University Grants Commission was re-elected to the International Congress Bureau. Prof. S. Nurul Hasan and Dr A.R. Kulkarni presided over two sessions. Papers in the oral history section were presented by Dr Kulkarni and Dr B.R. Grover while Fr. Corria Afonso presented a paper on relations between continents and peoples.

AIU Memorandum to Prime Minister

Education was made a Concurrent subject some four years ago. In order to give content to this statutory change some further follow up action requires to be taken. For reasons into which it is not necessary to go here, this has not been done so far. It is therefore urged that the issue be taken up as a priority item. What specific proposals are to be embodied in the new legislation requires to be studied by a Special Group constituted for the purpose. Such a Group should be asked to report within 2-3 months so that there is no further delay in the implementation of the statutory change effected so many years ago.

2. In a resolution passed by the AIU a few weeks ago it has been suggested to the Union Minister for Education that a Standing Committee on Higher Education should be constituted under his chairmanship. Its membership should include the various co-ordinating and professional all-India bodies in the country for instance, the U.G.C., the AIU, the Medical Council of India, the Bar Council, the All-India Council of Technical Education, the Indian Council of Agricultural Research. This Standing Committee should act as a forum for consideration of issues dealing with the universities and other matters concerning higher education. At the moment the only all-India body is the Central Advisory Board of Education. That body is however rather a large one and deals with all sectors of education. What is

required is a body with a focus on higher education and with a somewhat professional character. The proposed Standing Committee can serve this need quite appropriately. It can meet twice a year and review problems and situations as they arise from time to time.

3. Universities have been faced with two recurrent problems for a long time. One of them relates to the uncertain quantum and far from precise procedure of financial aid to universities. The outlay on higher education has been at a reduced level for the last one year. What picture emerges when the Sixth Plan is finalised remains to be soon. It needs to be emphasised however that the higher educational sector ought to be maintained at a high level of performance. But the budgetary cut, if it must be carried out, ought to be so rationalised as not to be jeopardise the on-going programmes. The AIU passed a resolution in this behalf at its last Special General meeting and it has been forwarded to the Ministry of Education, the Planning Commission and other concerned bodies for appropriate action.

With regard to the procedures of release of grant, however, there is considerable room for rationalisation and streamlining. Whatever be the quantum made available to the universities, it requires to be distributed in a manner that is precise, predictable and far from cumbersome. The experience of those States where

universities are not harassed for lack of funds can be studied with profit by other States.

4. The second problem relates to the vulnerable nature of the Vice-Chancellor's post. For about two decades now, Vice-Chancellors have been increasingly under stress. While the nature of the crisis is deeper than is generally realised, it is the Vice-Chancellors who for obvious reasons are identified with whatever goes wrong in the universities and quite often they are required to give up office and sometimes

even the various university bodies are superseded. Such decisions tend to undermine the credibility of the university system, apart from the fact that some individuals are hurt and humiliated in the process. It should be possible to avoid these situations as should be apparent from the fact that not all universities are affected by such situations. Apart from the institutional mechanism of the Standing Committee on Higher Education as proposed above, the services of the UGC and the AIU, the two all-India coordi-

nating bodies, can also be utilised for the purpose.

5. Early in 1978 the Supreme Court declared the universities to be an industry. This was a new development which had the potential of dislocating the universities in no small degree. Apart from the demand for payment of bonus and such other things, there were various other complications that could arise. Consequently the Association submitted a memorandum to the then Prime Minister. Unfortunately the matter is still pending.

Sociology of Violence

(Contd. from page 503)

Second, much of the violence has the connivance and even collusion of at least a sizeable segment of the leadership. Some governments are known to have encouraged violence, especially in industries and educational institutions. Leadership of violent agitations has become a pass of entry into the higher deliberative chambers and into other cushy offices within the range of political patronage.

There have been organized agitations against constitutionally set up authorities. Violent situations have been so contrived that they dramatically become instruments for gaining mass sympathy and support. Tears are shed for the victims of violence, but alongside of human compassion, there is also a political angle to the sympathy that is lavished on such occasions. Almost all such regrettable incidents are politicised and in the process aggravated.

Third, the entrenched interests are engaged in a battle for the survival of their privilege. In the past they successfully manipulated the levers of power to safeguard their interests. In the present context the tide of numbers is against them and their traditionally dumb followers are proving recalcitrant. In the past violence was the remedy of choice to keep the inferiors in their place. Now it does not always work the meek also hit back. Thus, violence continues to erupt from time to time.

Loss of faith in the institutions of society, in the long run, will be counter-productive to all interests and their representatives. What we need, therefore, is a national consensus covering recognized areas of violent conflict. A broad agreement on objectives of national policy is also indicated. The accent should now be on problem-solving. Also, there should be an imaginative programme of civic education to divert people from senseless destruction. The enforcement agencies should sharpen their remote sensing capabilities, anticipate likely problems, and sound their warning bells at the appropriate time. Their image has been badly disfigured. To refurbish it, they will have to change their technique of public relations and put in a more convincing performance. □

Population Awareness amongst the youth

(Continued from page 502)

members of staff. Literature for the clubs could be had free from the various agencies working in this field. Some specialised material could be had just like ordinary library books and journals.

After working the programme successfully for sometime it may be possible for FPAI, Education and Health Ministries etc and perhaps for UGC to give some financial grants to these cells/clubs in the universities and colleges.

Under a UNESCO scheme, the Government of India has recently initiated ambitious population education programmes in nine states of the country. It should be possible to earmark some amount for having useful population education programme in the Universities and colleges out of the grants given to the states for the purpose.

It may be mentioned here that the FPAI was responsible for starting a full-fledged Department of Population Studies at Tirupati where all sorts of courses/diplomas are being worked. Besides, the University at Tirupati has been playing a good leadership role in the state of Andhra Pradesh.

FPAI has also helped a small number of Indian Universities start Population cells. Kurukshetra is a good example where a full-fledged Population Education Club has been functioning for the last 3-4 years. It is financed jointly by the University and FPAI (Haryana Branch). The M.D. University at Rohtak has also initiated such a programme from this session at our suggestion. They are involving some of the affiliated colleges also.

If atleast one university (alongwith its constituent/affiliated colleges) in every state in India, could start some such programmes, it may be easier to spearhead the necessary consciousness all over. □

Conferences, Seminars and Workshops

October-December, 1980

Date	Title	Place	Sponsoring Body
1-15 Oct	Mathematical modelling of surface ground water systems	Bangalore	Indian Institute of Science
6-10 Oct	Handling & storage of fruits and vegetables	Chandigarh	National Productivity Council
6-10 Oct	Performance budgeting	Delhi	National Productivity Council
6-10 Oct	6th National Seminar on Management information & monitoring systems	Ooty	All India Management Association
6-11 Oct	Personnel Management	Madras	National Productivity Council
7 Oct-6 Nov	XXVII Course on hospital administration	New Delhi	National Institute of Health & Family Welfare
7-9 Oct	National Seminar on the Writings of Prem Chand	New Delhi	Centre of Indian Languages
8-10 Oct	Worker & Productivity	Bangalore	National Productivity Council
9-11 Oct	Annual Conference of the Cardiological Society of India and Thoracic Surgery Section of the Association of Surgeons of India	Pune	Cardiological Society of India
10-11 Oct	Workshop on environmental planning	Kanpur	Indian Instt of Chemical Engineering
13-15 Oct	Surface and Intersurface Properties in Material Science	Roorkee	Bhabha Atomic Research Centre
13-16 Oct	Finance for non-financial executives	Bangalore	National Productivity Council
16 Oct-15 Nov	Winter School in statistical Physics	Bangalore	Indian Institute of Science
27-31 Oct	Advanced Materials Management	Udaipur	National Productivity Council
27-31 Oct	Quality Control	Madras	National Productivity Council
27 Oct-1 Nov	Computer Systems performance evaluation & selection	Bombay	National Instt for Trg. in Ind. Engineering
27 Oct-1 Nov	Management information system	Srinagar	National Productivity Council
27 Oct-29 Nov	Health Planning Course	New Delhi	WHO & National Instt of Health & Family Welfare
28-31 Oct	Inter-personal relations	Bangalore	National Productivity Council
28 Oct-1 Nov	Performance Appraisal	Ahmedabad	National Productivity Council
October 1980	All India Workshop cum seminar on flight reliability and maintenance	Bangalore	Institution of Engineers (India)
October 1980	9th National Seminar of the Indian Association of Special Libraries and Information Centre	Nagpur	IASLIC
October 1980	Symposium on the theme : computer and control	Lucknow	Instit. of Elect. & Tele Engineering
Oct-Nov 1980	Summer Institute on theory and technology of modern steel making	Varanasi	Banaras Hindi University
3-29 Nov	Training Course on information storage and retrieval in health population and family welfare	New Delhi	WHO & Nat. Instt. of Health & Family Welfare National Documentation Centre
4-6 Nov	Programme on time management	Bangalore	All India Management Association
10-12 Nov	Symposium on plant disease problems under diversification of crop production in India	Ludhiana	Punjab Agricultural University
10-21 Nov	Analytical techniques for production personnel	Bombay	National Instt. for Trg. in Ind. Engineering
10-21 Nov	Management Information Systems—Workshop	Delhi	Indian Institute of Public Administration
11-14 Nov	Controls in management	Darjeeling	National Productivity Council
11-15 Nov	Management Science in Resource utilisation	Delhi	Indian Institute of Public Administration
17-28 Nov	Energy Management	Bombay	National Instt. of Trg. in Ind. Engineering
24 Nov-13 Dec	Advanced Reservoir Engineering	Dhanbad	Indian School of Mines
25-29 Nov	Corporate Planning ? Corporate Strategies	Delhi	National Productivity Council
26 Nov-3 Dec	Xth Course on Materials Management in hospitals	New Delhi	National Institute of Health & Family Welfare
26 Nov-6 Dec	Computers in Management	Delhi	Indian Institute of Public Administration
November 80	International Seminar on Sufi Teaching	Delhi	All India Jamiat-ul-Sufia
November 80	Seminar-cum-Workshop on flight safety	Delhi	Aeronautical Society of India
November 80	Symposium on instrumentation	Jaipur	Institute of Elect. & Tele. Engineering
November 80	35th National Conference on TB and Chest diseases	Bombay	Tuberculosis Association of India
1-12 Dec	Management Information Systems	Bombay	National Instt. of Trg. in Ind. Engineering
2 December	Top Management forum—The Management of changes	Madras	All India Management Association
2-5 Dec	Working Capital Management	Calcutta	National Productivity Council
2-9 Dec	International Conference on Industrial Tribology	Delhi	Indian Institute of Technology

Date	Title	Place	Sponsoring Body
4—5 Dec	National symposium on advances in non-destructive testing (Nuclear)	Bombay	Department of Atomic Energy & Bhabha Atomic Research Centre
4—6 Dec	Annual Seminar of Fertilizer Association of India	Delhi	Fertilizer Association of India
8—11 Dec	International Conference on Rheumatic fever and Rheumatic Heart disease	Delhi	All India Heart Foundation
8—12 Dec	Project Management for agricultural & agro-based industries	Ahmedabad	National Productivity Council
9—13 Dec	2nd International symposium on industrial and oriented basic electrochemistry	Madras	Electrochemical Science and Technology
10—12 Dec	Scientific decision-making	Delhi	Indian Institute of Public Administration
10—20 Dec	Short training course on genetic aspects of malaria	New Delhi	Department of Population Genetics & Human Development, National Institute of Health & Family Welfare
11—12 Dec	2nd National Seminar on Management of foreign technical collaboration in India	Bombay	All India Management Association
14—18 Dec	Conference of the Federation of Asian and Oceanian Biochemists	Bangalore	Indian Institute of Science; Society of Biological Chemists
14—18 Dec	Golden Jubilee celebrations of Society of Biological Chemists (India)	Bangalore	Society of Biological Chemists
15—19 Dec	International Workshop on Pigeonpeas	Patancheru (AP)	ICRISAT
15—20 Dec	Manager Development	Delhi	National Productivity Council
15—24 Dec	Financial Management Techniques	Delhi	Indian Institute of Public Administration
15 Dec—3 Jan	Urban Management	Delhi	Indian Institute of Public Administration
17—20 Dec	Annual Session of the Indian Institute of Chemical Engineers	New Delhi	Indian Institute of Chemical Engineering
22—27 Dec	Metal mining systems	Dhanbad	Indian School of Mines
27—29 Dec	All India English Teachers Conference	Varanasi	Banaras Hindu University
29 Dec—3 Jan	Executive effectiveness	Srinagar	National Productivity Council
3rd week of Dec	5th Conference of the Agricultural Research Statisticians	Delhi	Indian Agricultural Statistics Research Institute
December 80	Annual Convention of Chemists	Bombay	Indian Chemical Society
December 80	Annual Conference of the Anatomical Society of India	Patna	Anatomical Society of India & Gandhi Medical College, Bhopal
December 80	40th Annual Conference of the Indian Society of Agricultural Economics	Bombay	Indian Society of Agricultural Economics
December 80	International Symposium on industrial and oriented basic electrochemistry	Madras	Society for the Advancement of Electrochemical Science and Technology
December 80	24th Technical Convention of IETE and exhibition	Delhi	Institute of Electronics and Tele-communication Engineers

Subject Index

Date	Title	Place	Sponsoring Body
Aeronautics			
October 1980	19th All India Workshop cum seminar on flight reliability and maintenance	Bangalore	Institution of Engineers (India)
November 1980	Seminar cum Workshop on flight safety	Delhi	Aeronautical Society of India
Agriculture			
10—12 Nov	Symposium on plant disease problems under diversification of crop production in India	Ludhiana	Punjab Agricultural University
4—6 Dec	Annual Seminar of Fertiliser Association of India	Delhi	Fertiliser Association of India
8—12 Dec	Project Management for agriculture & agro-based Industries	Ahmedabad	National Productivity Council
15—19 Dec	International Workshop on Pigeonpeas	Patancheru (AP)	ICRISAT
Computers			
27 Oct—1 Nov	Computer Systems performance evaluation & selection	Bombay	National Instt. for Trg. in Ind. Engg.
October 1980	Symposium on the theme : Computer and Control	Lucknow	Instt. of Electronics & Tele. Engineers
26 Nov—6 Dec	Computers in Management	Delhi	Indian Institute of Public Administration

Date	Title	Place	Sponsoring Body
Economics & Finance			
December 1980	40th annual conference of the Indian Society of Agricultural Economics	Bombay	Indian Society of Agricultural Economics
Electricity and Electronics			
December 1980	24th Technical Convention of IETE exhibition	Delhi	Instt. of Electronics & Tele. Engineers
Energy			
17-28 Nov	Energy Management	Bombay	National Instt. for Trg. in Ind. Engg.
Engineering			
13-15 Oct	Surface and Intersurface Properties in Material Sc.	Roorkee	Bhabha Atomic Research Centre
2-9 Dec	International Conference on Industrial Tribology	Delhi	Indian Institute of Technology
17-20 Dec	Annual Session of the Indian Institute of Chemical Engineers	New Delhi	Indian Institute of Chemical Engineers
9-13 Dec	2nd International Symposium on industrial and oriented basic electrochemistry	Madras	Society for Advancement of Electrochemical Science and Technology
4-5 Dec	National Symposium on advances in non-destructive testing (Nuclear)	Bombay	Department of Atomic Energy and Bhabha Atomic Research Centre
Environment & Pollution			
10-11 Oct	Workshop on environmental planning	Kanpur	Indian Institute of Chemical Engineers
Financial Management			
13-16 Oct	Finance for non-financial executives	Bangalore	National Productivity Council
2-5 Dec	Working Capital Management	Calcutta	National Productivity Council
15-24 Dec	Financial Management techniques	Delhi	Indian Institute of Public Administration
Food Technology			
6-10 Oct	Handling & storage of fruits and vegetables	Chandigarh	National Productivity Council
Instrumental			
November 1980	Symposium on instrumentation	Jaipur	Instt. of Electronics & Tele. Engg.
Library Science			
October 1980	9th National Seminar of the Indian Association of Special Libraries and Information Centre	Nagpur	IASLIC
Literature and Language			
7-9 Oct	National Seminar on the writings of Prem Chand	New Delhi	Centre of Indian Languages
27-29 Dec	All India English Teachers Conference	Varanasi	Banaras Hindu University
Management			
6-10 Oct	6th National Seminar on Management Information & Monitoring Systems	Ooty	All India Management Association
6-10 Oct	Performance budgeting	Delhi	National Productivity Council
27 Oct-1 Nov	Management Information System	Srinagar	National Productivity Council
4-6 Nov	Programme on time Management	Bangalore	All India Management Association
10-21 Nov	Management Information Systems—Workshop	Delhi	Indian Institute of Public Administration
11-14 Nov	Controls in Management	Darjeeling	National Productivity Council
11-15 Nov	Management Science in Resource utilisation	Delhi	Indian Institute of Public Administration
25-29 Nov	Corporate planning—Corporate strategies	Delhi	National Productivity Council
1-12 Dec	Management Information Systems	Bombay	National Instt. for Trg. in Ind. Engg.
2 Dec	Top Management forum—The Management of Changes	Madras	All India Management Association
10-12 Dec	Scientific decision-making	Delhi	Indian Institute of Public Administration
15-20 Dec	Manager development	Delhi	National Productivity Council
29 Dec-3 Jan	Executive effectiveness	Srinagar	National Productivity Council
11-12 Dec	2nd National Seminar on Management of foreign technical collaboration in India	Bombay	All India Management Association
Marketing Management			
6-10 Oct	National Advanced Marketing Seminar (Corporate Goals & Marketing Strategies)	Mussoorie	All India Management Association

Date	Title	Place	Sponsoring Body
Materials Management			
27-31 Oct	Advanced Materials Management	Udaipur	National Productivity Council
26 Nov-3 Dec	Xth Course on Materials Management in hospitals	New Delhi	National Instt. of Health & Family Welfare
Mathematics			
3rd week of Dec	V Conference of the Agricultural Research Statisticians	Delhi	Indian Agricultural Statistics Research Institute
Medicine & Public Health			
7 Oct-6 Nov	XXVII course on hospital administration	New Delhi	National Instt. of Health & Family Welfare
9-11 Oct	Annual Conference of the Cardiological Society of India and Thoracic Surgery Section of the Association of Surgeons of India		Cardiological Society of India
27 Oct-29 Nov	Health Planning Course	New Delhi	WHO & National Instt. of Health and F. Welfare
November 1980	35th National Conference on TB & Chest diseases	Bombay	Tuberculosis Association of India
November 1980	Workshop on Nutrition for trainees of Community Health Workers	Delhi	National Institute of Nutrition & WHO
3-29 Nov	Training Course on information storage and retrieval in health, population and family welfare	New Delhi	National Documentation Centre; National Instt. of Health & Family Welfare
8-11 Dec	International Conference on Rheumatic fever and Rheumatic Heart disease	Delhi	All India Heart Foundation
10-20 Dec	Short training course on genetic aspects of malaria	New Delhi	Deptt. of Pop. Genetics & Human Dev. National Instt. of Health & Family Welfare
December 1980	Annual Conference of the Anatomical Society of India	Patna	Anatomical Society of India Gandhi Med. College, Bhopal
Mining & Metallurgy			
Oct-Nov	Summer Institute on theory and technology of modern steel making	Varanasi	Banaras Hindu University
22-27 Dec	Metal mining systems	Dhanbad	Indian School of Mines
Personnel Management			
6-11 Oct	Personnel Management	Madras	National Productivity Council
8-10 Oct	Worker & Productivity	Bangalore	National Productivity Council
28-31 Oct	Inter-personal relations	Bangalore	National Productivity Council
28 Oct-1 Nov	Performance appraisal	Ahmedabad	National Productivity Council
Philosophy			
November 1980	International Seminar on Sufi teaching	Delhi	All India Jamiat-ul-Sufia
Production Management			
27-31 Oct	Quality Control	Madras	National Productivity Council
10-21 Nov	Analytical techniques for production personnel	Bombay	National Instt. for Trg. in Ind. Engg.
Public Administration			
15 Dec-3 Jan	Urban Management	Delhi	Indian Institute of Public Administration
Rural Development & Population Control			
Science & Technology			
16 Oct-15 Nov	Winter school in statistical physics	Bangalore	Indian Institute of Science
14-18 Dec	Conference of the Federation of Asian and Oceanian Biochemists	Bangalore	Society of Biological Chemists, Indian Institute of Science
14-18 Dec	Golden Jubilee celebrations of Society of Biological Chemists (India)	Bangalore	Society of Biological Chemists
December 1980	Annual Convention of Chemists	Bombay	Indian Chemical Society
Water Resources			
1-15 Oct	Mathematical modelling of surface ground water systems	Bangalore	Indian Institute of Science
24 Nov-13 Dec	Advanced Reservoir Engineering	Dhanbad	Indian School of Mines,

Further details can be had from:
The Librarian, British Council Library,
AIFACS Building, Rafi Marg, New Delhi-110001

CLASSIFIED ADVERTISEMENTS

UNIVERSITY OF BOMBAY

Bombay-400032

Applications are invited in the prescribed form for the following posts in the University :

Post	Department/Centre
1. Professor of Agricultural Economics	Economics
2. Reader in Economics	-do-
3. Two Lecturers (Temporary appointment for a period not exceeding 25-4-1982)	Sociology
4. Reader in Politics	Civics & Politics
5. Reader in American Government & Politics	-do-
6. Lecturer in Chemistry	Chemistry
7. Lecturer (Temporary appointment for a period not exceeding 30-6-1983)	History
8. Reader	Geography
9. Lecturer	Computer Science
10. Lecturer in Swahili	Centre of East African Studies (Area Studies Programme)
11. Four Professors	Centre of Advanced Study in Mathematics
12. Five Readers	-do-
13. Two Lecturers	-do-
14. Two Lecturers	Mathematics
15. Reader in Physics	Centre of Advanced Study in Applied Chemistry.
16. Reader in Chemical Engineering	Chemical Technology
17. Reader in Biochemical Engineering	-do-
18. Reader in Colour Chemistry	-do-
19. Lecturer in Applied Biochemistry	-do-
20. Lecturer in Inorganic & Physical Chemistry.	-do-

The pay-scales of the posts are as follows :

Professor : Rs. 1500-60-1800-100-2000-125/2-2500.

Reader : Rs. 1200-50-1300-60-1900

Lecturer : Rs. 700-40-1100-50-1600.

In addition to pay, Dearness Allowance, House Rent Allowance and Compensatory Local Allowance will be paid according to the University rules. All posts, other than the posts at serial numbers 3 and 7, carry the benefits of Provident Fund and Gratuity according to the University rules. A higher starting pay may be given to persons appointed to the posts of Professor and Reader in special cases. The appointments to the posts, other than the posts at serial numbers 3 and 7, will be on probation for two years but the probationary period may be reduced by the Executive Council in special cases. Other things being equal preference will be given to candidates from backward classes. The posts of Lecturer are reserved for candidates belonging to scheduled castes and scheduled tribes and will be filled up by appointment of such persons only as shall satisfy the requirements regarding qualifications, experience etc. laid down for the posts; provided, however, that if no candidate is available from scheduled castes and scheduled tribes, the posts will be filled up by appointment of duly qualified persons from among the other candidates.

The minimum qualifications prescribed for the posts, other than the posts at

serial numbers 15, 16, 17, 18 and 19 are as under :

Professor

An eminent scholar with published work of high quality, actively engaged in research. Ten years' experience of teaching and/or research. Experience of guiding research at doctoral level.

Or

An outstanding scholar with established reputation who has made significant contribution to knowledge.

Reader

Good academic record with a Doctor's degree or equivalent published work. Evidence of being actively engaged in (i) research or (ii) innovation in teaching methods or (iii) production of teaching materials.

About five years' experience of teaching and/or research provided that at least three of these years were as Lecturer or in an equivalent position. This condition may be relaxed in the case of candidates with outstanding research work.

Lecturer

(a) A Doctor's degree or research work of an equally high standard; and

(b) Consistently good academic record with 1st or high 2nd class (B in the seven point scale) Master's degree in a relevant subject or an equivalent degree of a Foreign University.

Having regard to the need for developing interdisciplinary programmes, the

degrees in (a) and (b) above may be in relevant subjects.

The Executive Council may relax any of the qualifications prescribed in (b) above provided that the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard.

If a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, the Executive Council may appoint a person possessing a consistently good academic record (weightage being given to M.Phil. or equivalent degree or research work of quality) provided he has done research work for at least two years or has practical experience in a research laboratory/organization on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which, he will not be able to earn future increments until he fulfils these requirements.

Explanation

(1) For determining consistently good academic record, a candidate should either have an average of 55% marks at the two examinations prior to Master's degree (irrespective of the marks obtained in any of the two examinations) or 50% marks at each of two examinations separately.

(2) For determining high second class, the mid-point between the minimum percentages of marks fixed by a University for award of second class and first class may be taken.

The additional qualifications prescribed for the posts at serial numbers, 1, 2, 4 to 13 and 20 mentioned above are as under :

1. Professor of Agricultural Economics—Specialization in Agricultural Economics, in Rural and Tribal Development and Rural Institutions.

2. Reader in Economics—Specialization in Economics of Education. Preference will be given to a candidate with a good background in Economics of Education.

4. Reader in Politics—Experience of teaching and/or research must be in Political Theory and Political Thought.

5. Reader in American Government & Politics—Experience of teaching and/or research must be in American Government & Politics and Foreign Policy & Diplomacy.

6. Lecturer in Chemistry—The Doctor's degree or equivalent research work must be in Organic Chemistry. A candidate having experience of teaching Organic Chemistry will be preferred.

7. Lecturer (History) (Temporary appointment for a period not exceeding 30-6-1983)—Specialization in American

History/Economic History of India will be desirable.

8. **Reader (Geography)**—Specialization in Spatial and Regional Planning/Industrial Geography.

9. **Lecturer (Computer Science)**—At least two years' experience of teaching or working in a research and development area related to computer science will be desirable.

10. **Lecturer in Swahili**—Diploma in Swahili Language and Literature essential.

11. **Four Professors (CAS in Mathematics)**—Specialization in Pure Mathematics.

12. **Five Readers (CAS in Mathematics)**—Specialization in Pure Mathematics.

13. **Two Lecturers (CAS in Mathematics)**—Specialization in Pure Mathematics.

20. **Lecturer in Inorganic & Physical Chemistry (Chemical Technology)**—

(i) Specialization in Surface Chemistry, Polymer Chemistry, Electro-Chemistry or Calorimetry.

(ii) Experience in lecturing and conducting advanced practical work in Physical and Inorganic Chemistry.

The qualifications prescribed for the posts at serial numbers 15, 16, 17, 18 and 19 are as under :

15. **Reader in Physics (CAS in Applied Chemistry)**

(a) First Class M.Sc. degree in Physics from a recognised University with specialisation in Solid State Physics, Spectroscopy or Material Science.

(b) Doctorate degree in Physics in any one of the following fields:

X-ray diffraction or X-ray Spectroscopy, Electron Microscopy or electron diffraction specially of polymers or organic solids. Electrical, optical, dielectric or mechanical properties of organic solids or polymers.

(c) At least five years' teaching and/or research experience after obtaining the doctorate degree in any of the above fields supported by good published work in standard journals.

16. **Reader in Chemical Engineering**

(a) Consistently good academic record with a basic degree in Chemical Engineering as well as a Doctorate degree. Research publications in journals of international standards. At least five years' research/professional experience. Some consulting experience will be desirable.

(b) Specialization in (i) mass transfer with specific reference to interaction with hydrodynamics; (ii) process dynamics and control.

17. **Reader in Biochemical Engineering**

(a) Consistently good academic record with a doctorate degree in Biochemical Engineering or Chemical Technology/Chemical Engineering with specialization in Biochemical or Food Engineering.

(b) About five years' experience of teaching and/or research or in Food/Fermentation industry in a responsible position.

18. **Reader in Colour Chemistry**

(a) Consistently good academic record with a doctorate degree in Technology of Intermediates and Dyes or equivalent published work. Evidence of being actively engaged in (i) research or (ii) innovation in teaching methods or (iii) production of teaching materials

(b) About five years experience of teaching and/or research in the Dye-stuff field provided that at least three of these years were as Lecturer or in an equivalent position. This condition may be relaxed in the case of candidates with outstanding research work.

19. **Lecturer in Applied Biochemistry**

Consistently good academic record with a Master's degree in Chemical Technology with experience of teaching, research or in industry or a Doctorate degree in Chemical Technology.

OR

Consistently good academic record with a Doctorate Degree in Biochemistry with specialization in Food Biochemistry, Nutrition or Food Toxicology with experience of teaching, research or in food or allied industry.

Eight copies of the application in the prescribed form, together with attested copies of certificates, should be sent in an envelope superscribed with "Application for the post of _____" so as to reach the Registrar (Teaching Appointments Unit), University of Bombay, Bombay-400032, on or before Friday, 17th October, 1980. Candidates from abroad, Andaman & Nicobar Islands and Lakshadweep may send their applications so as to reach the Registrar on or before Friday, 31st October, 1980.

Applications received after the last date will not be considered. Prescribed forms of application can be had in person, free of charge, from the Teaching Appointments Unit, Registrar's Office, (Room No. 110), University of Bombay, Fort, Bombay-400032.

Requests for supply of a set of eight prescribed forms by post should be made sufficiently in advance with a self-addressed stamped (Re. 1.80) envelope of the size of 27 x 12 cms.

Candidates should send with every application a crossed Indian Postal Order or a crossed Demand Draft on a scheduled bank for Rs. 10/- drawn in favour of the Registrar, University of Bombay, payable at Bombay, as application fee. Candidates who apply for more than one post should send separate applications along with the requisite fee by means of a crossed Indian Postal Order/Demand Draft. Money order or cheques or cash will not be accepted by the University. The fee will not be refunded once an application has been received by the University.

Incomplete applications and applications without the requisite fee will not be considered. Applications on plain paper will not be considered.

Candidates are advised to satisfy

themselves before applying that they possess the prescribed qualifications and it is for the candidates themselves to ensure that they possess the prescribed qualifications. No inquiry asking for advice as to eligibility will be entertained.

Candidates called for interview will have to present themselves at their own expenses.

Canvassing, direct or indirect, will be a disqualification.

Note:—Persons who has applied for the posts mentioned at serial numbers 12, 13 and 14 in response to the advertisement dated 21st December, 1978 should apply afresh if they are interested in the posts.

G. M. Rajarshi
REGISTRAR

BIDHAN CHANDRA KRISHI VISWA VIDYALAYA

P. O. MOHANPUR, WEST BENGAL
Advertisement No. Appt/5/80

Applications are invited for filling up the following posts in the scales mentioned below plus other allowances as admissible under the rules of the Viswa Vidyalaya :

A. Comptroller in the scale of Rs. 1500-60-1800-100-2000-125/2-2500/-

Qualification : Essential

(i) Uniformly good academic record with a B+ Master's Degree or its equivalent professional qualification.

(ii) Membership of the Institute of Chartered Accountants of India or experience in I.A.A.S. and equivalent service;

OR

A Master's Degree in Business Administration with specialisation in Finance.

In case of candidates holding professional qualifications as in item (ii), the requirement of M. A. Degree may be waived.

(iii) At least 15 years experience in a Govt. or in a University or in a Institute of Higher Learning in a high administrative post involving supervision, control, planning and Audit;

(iv) Age not less than 40 years. Relaxable in case of exceptionally qualified candidates.

(v) Preference will be given to Master's degree in Commerce.

B. Director of Farms in the scale of Rs. 1500-60-1800-100-2000-125/2-2500/-

Qualification : Essential

(i) Uniformly good academic career with at least a B+ Master's Degree in Agronomy or recognised equivalent qualifications following honours degree;

(ii) At least 10 years' experience in the management of farms in a senior administrative position;

(iii) Knowledge of Agricultural conditions in the country preferably in the State of West Bengal.

Desirable

(i) A Doctorate Degree or publication of merit in allied subjects;

(ii) Proven capacity of leadership in organisation and management of large size State or University farms.

Age : Below 55 years.

C. Professor of Dairy Engineering (One Post) in the scale of Rs. 1500-60-1800-100-2000-125/2-2500/-

Qualification : Essential : (i) A first or high second class Master's Degree in Dairy Engineering.

(ii) Ten years experience in teaching and/or research as evidenced from published paper in Institution or University standard at the post-graduate level of which five years must be in a post equivalent to Reader.

(iii) Specialised knowledge in one or more specialised fields with experience of guiding research.

(iv) Preference shall be given to candidates having Doctorate Degree with professional/scientific work of outstanding merit.

(v) A Basic professional degree in Agriculture / Mechanical / Electrical Engineering at the graduate level is essential.

Age : Preferably below 55 years.

D. University Engineer in the scale of Rs. 1200-50-1300-60-1900/-

Qualification : Essential : (i) Uniformly good academic record with 1st. or high 2nd class graduation in Engineering (Civil).

(ii) At least 10 years' experience in a position involving supervision, control and planning of construction work under Govt. / Quasi-Govt./University/Institute of higher learning;

(iii) Age not below 35 years. Relaxable in the case of exceptionally qualified candidates.

Desirable : A post-graduate degree in Civil Engineering.

OR

Experience of 5 years in large scale industrial concern for a position involving decision making in planning, estimating, designing and supervision of construction.

E. Medical Officer (One Post) in the scale of Rs. 1200-50-1300-60-1900/-

Qualification : Essential : (i) An M.B.B.S. Degree recognised by the I.M.C.

(ii) At least 10 years' experience of medical practice in a Government/ Military/Quasi Government hospitals;

(iii) Age not below 35 years. Relaxable in the case of exceptionally qualified candidates;

(iv) 10 years' experience in hospital may be relaxed in case of private practice or reputation for 15 years.

Desirable : Post-graduate degree in any of the branches of the Medical Science or Diploma in Public and Tropical Medicine.

F. Assistant Director of Extension (Training Programme) in the scale of Rs. 1200-50-1300-60-1900/-

Qualification : Essential

(i) A first or high second class Master's Degree in Agriculture/Veterinary/ Animal Sciences or an equivalent degree of a foreign University;

(ii) A Doctorate Degree in the relevant subject or equivalent published work of a good record of research;

(iii) Five years' experience of teaching/research / Extension, of which three years must be as a Lecturer or in a post of equivalent rank.

Desirable

(i) Experience of conducting Trg. Programme / Communication Work.

(ii) Experience of conducting demonstrations with the farmers.

Age : Below 50 years.

F. Assistant Director of Extension (Veterinary) in the scale of Rs. 1200-50-1300-60-1900/-

Qualification: Essential

(i) A first or high second class Master's Degree in Veterinary Science or equivalent qualification of a foreign University;

(ii) A Doctorate Degree in the relevant subject or published work of a good record of research;

(iii) Five years' experience of teaching/research/Extension of which three years must be as Lecturer or in a post of equivalent rank.

Desirable

(i) Experience of conducting training programme/communication work.

(ii) Experience of conducting demonstration with the farmers.

Age : below 50 years.

G. Superintendent of Farms (One Post) in the scale of Rs. 1200-50-1300-60-1900/-

Qualification: Essential

(i) Uniformly good academic record with a B+ Master's Degree in Agronomy;

(ii) At least 10 years' experience in farm management in a Government or University Farm;

(iii) Age not less than 35 years. Relaxable in the case of exceptionally qualified candidates;

(iv) Knowledge of Agricultural condition in the country particularly in West Bengal will be given preference.

Desirable

A Doctorate degree or published research work of equal merit.

H. Reader in Dairy Engineering (One Post) in the scale of Rs. 1200-50-1300-60-1900/-

Qualification: Essential

(i) A first or high second class Master's Degree in Dairy Engineering or equivalent Degree of a foreign University;

(ii) Five years' experience in teaching and/or Research as evident from published papers in Institution or University standard of which three years must be in a post in the rank of Lecturer;

(iii) Preference shall be given to candidates having Doctorate Degree or published work of equal merit;

(iv) A Basic professional degree in Agriculture/Mechanical / Electrical Engineering at the graduate level is essential.

AGE : Preferably below 50 years.

J. Lecturer in Dairy Engineering (One Post) in the scale of Rs. 700-40-1100-50-1600/-

Qualification : Essential

(i) A consistently good academic record with first or high second class Master's Degree in Dairy Engineering or equivalent degree of a foreign University;

(ii) Two years' teaching/research experience in any Institution of repute;

(iii) Preference shall be given to candidates having Doctorate Degree or published work of equal merit;

(iv) A Basic professional degree in Agriculture/Mechanical/Electrical Engineering of the graduate level is essential.

Age: Below 45 years.

K. Lecturer in Radiology (One Post) in the scale of Rs. 700-40-1100-50-1600/-

Qualification : Essential

(i) A consistently good academic record with first or high second class Master's Degree in the relevant subject or equivalent degree of a foreign University;

(ii) A Doctorate Degree in the subject concerned or published research work of an equally high standard.

Age : Below 45 years.

L. Lecturer in Veterinary Medicine (One Post) in the scale of Rs. 700-40-1100-50-1600/-

Qualification : Essential

(i) A consistently good academic record with first or high second class Master's Degree in the subject or equivalent degree of a foreign University.

(ii) A Doctoral Degree in the subject concerned or published research work of an equally high standard.

(iii) Specialisation in Preventive Medicine.

Age : Below 45 years.

M. Subject Matter Specialist—Three Posts : One each for Extension, Plant Pathology & Entomology under National Demonstration Scheme in the scale of Rs. 700-40-1100-50-1600/-

Qualification : Essential : (i) A consistently good academic record with first or high second class Master's Degree in the relevant subject or equivalent degree of a foreign University

(ii) A Doctoral Degree in the subject concerned or published research work of an equally high standard.

Desirable : (i) Two years' experience of teaching/Research/Extension work in any Institute of repute;

(ii) Experience of conducting Demonstration/Farm Advisory Work in case of Extension and experience of identification of crop diseases/insect pests and their control measures in case of Plant Pathology and Entomology;

(iii) Experience of conducting Training programmes/Communication work in case of Extension and experience of conducting demonstrations in farmer's field in case of Plant Pathology and Entomology;

(iv) For post-graduate degree in Plant Pathology, Agril. Entomology as elective subject at under-graduate level and vice-versa.

Age : Below 45 years.

N. Research Scientist III—One Post under the Scheme 'Survey Selection &

Mass Production' in the scale of Rs. 700-40-1100-50-1600/-

Qualifications : Essential : (i) A consistently good academic record with first or high second class Master's Degree in Microbiology or Plant Pathology or Botany with specialisation in Microbiology or Mycology or equivalent degree of a foreign University (ii) A Doctoral Degree in the subject or published research work of an equally high standard.

Age : Below 45 years.

O. Veterinary Surgeon (One Post) in the scale of Rs. 600-35-670-40-870-45-1050-50-1250/-

Qualification: Essential (i) B.V.Sc. & A.H. Degree from the recognised University/Institution (ii) At least 5 years' experience of treatment & control of animal diseases in N.E.S. and C.D.P. Blocks (iii) Preference will be given to M.V.Sc. Degree holder.

Age : Preferably below 35 years.

N.B. (i) For the posts of Lecturer or of equivalent rank—if a candidate possessing a Doctorate Degree or equivalent research work is not available or is not considered suitable, the person possessing consistently good academic record may be considered for appointment on the condition that he/she will have to attain a Doctorate Degree or show evidence of research work of equivalent high standard within 5 years of his/her appointment failing which he/she will not be eligible to earn increments till he/she fulfils these requirements.

(ii) For the post under category 'L' Master's Degree should be followed by B.V.Sc. & A.H. Degree.

(iii) For the posts of Lecturer and equivalent posts preference will be given to the candidates having a basic degree in Agriculture or B.V.Sc. & A.H. as the case may be.

Experience and age limit may be relaxable on the recommendations of the Selection Committee in the case of candidates otherwise qualified. A high initial pay in the scale may be granted on the basis of qualifications, experiences and present emoluments.

Applications must be submitted in the prescribed form to be had from the office of the Registrar (Recruitment Section), Bidhan Chandra Krishi Viswa Vidyalaya, P.O. Mohanpur, Distt. Nadia West Bengal by remitting crossed Indian Postal Order for Rs. 8.00 (eight) in favour of the 'Bidhan Chandra Krishi Viswa Vidyalaya' between 11-30 A.M. and 4-00 P.M. on weekdays and between 11-30 A.M. & 1-00 P.M. on Saturdays.

Application forms may also be obtained by post by sending a self addressed envelope stamped Re. 0.45 (forty five paise) only and the necessary Postal Order.

Applications made otherwise are liable to be cancelled.

Persons already in employment should apply through proper channel.

Applications completed in all respects should be submitted to the Office of the Registrar (Receipt & Despatch

Section) by the 30th September, 1980 in an envelope superscribed with the name of the post applied for.

Candidates called for interview will have to appear at their own cost.

REGISTRAR

JAMIA MILLIA ISLAMIA Jamia Nagar, New Delhi-110025

Advertisement No. 5/80-81.

Applications on the prescribed form which can be had from the Registrar's Office on any day (except Sundays and Holidays) between 10.00 a.m. to 12.00 Noon or by sending a self addressed and duly stamped (30 paise) envelope of 10x23 cms., are invited along with the crossed postal order or Bank Draft of Rs. 3/- for the following posts so as to reach the Registrar by 1.00 p.m. on 6.10.1980.

Ability to teach in Urdu and Hindi is a desirable qualification for teaching posts and knowledge of Urdu and Hindi is essential for non-teaching posts.

D.A., C.C.A., H.R.A., P.F., Gratuity, Pension etc. and such other benefits will be given according to Jamia rules.

Relaxation in any of the qualifications may be made on the recommendation of the Selection Committee in exceptional cases.

Two Professors (Grade : Rs. 1500-2500): One each in Islamic Studies, Department of Islamic & Arab-Iranian Studies, and Education, Department of Teachers' Training & Non-Formal Education (permanent).

An eminent scholar with published work of high quality actively engaged in research. Ten years' experience of teaching and/or research. Experience of guiding research at doctoral level.

OR

An outstanding scholar with established reputation who has made significant contribution to knowledge.

One Reader in Physics (Grade : Rs. 1200-1900)—Leave vacancy.

Good academic record with a first or high second class Master's Degree of an Indian University or an equivalent foreign qualification. A Doctorate Degree or equivalent published work in the subject concerned, and independent published work of a high standard in addition to the published work referred to above and at least 5 years experience of teaching Hons./Post-graduate classes or 10 years' experience of teaching undergraduate classes.

One Reader in Education (Grade Rs. 1200-1900)—permanent

Good academic record with a first or high second class Master's Degree of an Indian University or an equivalent foreign qualification. A Doctorate Degree or equivalent published work in the subject concerned, and independent published work of a high standard in addition to the published work referred to above and at least 5 years experience of teaching M.Ed. classes or 10 years experience of teaching B.Ed. classes.

Specialisation in Educational Re-

search, Statistical methods and Educational Psychology will be a desirable qualification.

One Lecturer in Education (Civics), Grade : Rs. 700-1600 (Leave vacancy).

(a) A Doctor's degree in Education or research work of an equally high standard; and

(b) Consistently good academic record with 1st or high 2nd class Master's degree in the relevant subject of an equivalent degree of a foreign university.

OR

(a) A Doctor's degree in the relevant subject or research work of an equally high standard; and,

(b) Consistently good academic record with an M. Phil. degree in Education or an equivalent degree of a foreign university.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of qualifications prescribed above.

Proficiency to teach Civics as well as History or Sociology to B.Ed. students will be desirable.

Eight Lecturers (Grade : Rs. 700-1600). One each in Physics (permanent), Organic Chemistry, Economics, Medieval Indian History, Urdu, Social Work, Arabic and Persian (leave vacancies)

(a) A Doctor's degree or research work of an equally high standard; and

(b) Consistently good academic record with 1st or high 2nd class Master's degree in a relevant subject or an equivalent degree of a foreign university.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of qualifications prescribed above.

For the post of Lecturer in Medieval Indian History knowledge of Persian is a desirable qualification.

For the post of Lecturer in Urdu, knowledge of Arabic and Persian supported by a Diploma or degree is a desirable qualification.

For the post of Lecturer in Social Work experience in teaching/training in Applied Social Sciences projects would be a desirable qualification.

For the post of Lecturer in Arabic, knowledge of written and spoken modern Arabic and ability to translate from Arabic into English and vice versa is required.

For the post of Lecturer in Persian, knowledge of Modern Persian (written and spoken) is required.

One Lecturer (Grade : Rs. 700-1300), Department of Technology (Leave vacancy)

At least second class Degree in Civil Engineering, with two years teaching experience in some Engineering Institute.

One T.G.T. in Agriculture (Grade Rs. 440-750)—permanent

Essential :—(1) At least second class degree of a recognised university in the subject concerned, (2) A University degree/diploma in teaching.

Desirable

At least two years experience in teaching Middle /High classes of a High/Hr. Sec. School.

One Research Assistant (Sociology)
Grade: Rs. 425-700 (leave vacancy).

1. At least a second class Master's degree or equivalent in Sociology from a recognised University.
2. Experience in and demonstrated ability for conducting social research, including quantitative techniques.
3. Adequate knowledge of Urdu and Hindi.

One Extension Assistant (Grade: Rs. 425-640)—temporary in the Department of Urdu Correspondence Course

An M.A. in Urdu with a minimum of 50% marks with an adequate knowledge of Hindi.

S.H. Naqvi
OSD/OFFG. REGISTRAR

**OFFICE OF THE REGISTRAR
DIBRUGARH UNIVERSITY**

Dibrugarh : Assam

Advertisement No. 5/80

Applications are invited for the following posts :

1. Medical Officer—One
2. Director of Sports-cum-N.C.C.
3. Liaison Officer—One
4. Assistant Librarian—One.

For National Adult Education Programme Unit of the University

4. Project Officer—One (Temporary)
5. Accountant - cum - Typist—One (Temporary)

For University Service & Instrumentation Centre

6. Senior Scientific Officer—One.
7. Senior Technical Assistant—One.

8. (i) Technician (C)—Three.
(One each for Mechanical, Electronics and Glass Blowing)
(ii) Technician (B)—Two.
(One each for Mechanical and Glass Blowing).
(iii) Technician (A)—One.
Electronics.

Essential Qualifications and scale of pay

1. **Medical Officer**—Rs. 600-40-800 (EB)—50-1300/-

- (i) M.B.B.S. Degree from a recognised University or Board,
- (ii) Minimum 2 (two) years of experience.
- (iii) Age not more than 45 years on 1.4.80.

2. **Director of Sports**—Rs. 800-45-1070(EB)-50-1570/-

- (i) Must be Graduate; Master degree holder will be preferred.
- (ii) Must have represented the State in any major games of athletics.
- (iii) Must have some experience of working either in a University or in a College.

- (iv) Those with experience in National Service and in organising Sports, Games and Cultural activities at University level will be preferred.
- (v) Experience in conducting N.S.S. activities preferred.
- (vi) Age not more than 45 years.
3. **Assistant Librarian**—Rs. 600-40-800(EB)-50-1300/-
(i) Graduate with minimum of 2nd Class Degree in Library Science.
(ii) At least 5 years working experience in a University or Public Library.
(iii) Experience in Organisation & Administration of Library will be additional qualification.
(iv) Any post graduate degree/ Diploma will be an additional qualification.
4. **Project Officer**—Rs. 700-40-900 (EB)-40-1100-50-1300/-
(i) Master Degree in Arts/ Science/Commerce.
(ii) Experience in N.A.E.P. & N.S.S.
(iii) Aptitude in Social Service.
(iv) Ability to work at the field level and ability to organise and supervise N.A.E.P. Projects in rural and urban areas.
(v) Willingness to undertake journeys in difficult terrain and areas.

Job description:— The Project Officer of the University will be required to assist the Programme Co-ordinators in all matters relating to the proper organisation and implementation of N.A.E.P./N.S.S. programme in Colleges and Institutions affiliated to this University.

Those between 30 to 35 years are eligible to apply.

5. **Accountant-cum-Typist**—Rs. 285-9-330(EB)-10-420-11-475/- plus Rs. 50/- as special allowance.

- (i) Pre-Degree passed from any recognised University or Board
- (ii) 5 years office experience having knowledge in Accounts works.
- (iii) Minimum Typing speed of 45 W.P.M.

6. **Senior Scientific Officer**— Rs. 1100-50-1600/-

- (i) At least Second Class Post-Graduate degree in Engineering or Science with 5 years experiences in R & D of instruments or in operation, repair and maintenance of modern instruments.

7. **Senior Technical Assistant** Rs. 550-25-750(EB)-30-900/-

- (i) At least Second Class B.E./ B. Tech./M.Sc. Or a diploma in Engineering Or Electronics/ B.Sc. with 3 years experiences in operation of modern instruments and their repair and

maintenance assistance in R & D in instrumentation (Candidates will be tested for their aptitude in instrumentation).

8. (i) **Technician (C)**— Rs.380-12-500(EB)-15-560/-
(a) **Mechanical** — Certificate Course from I.T.I. with 7 (seven) years experience.
(b) **Electronics** — Certificate Course from I.T.I. in Electronics / Electrical Engineering with 5 years experience.
(c) **Glass Blowing** —10 years schooling and 4 years experiences.
(ii) **Technician (B)** —Rs. 320-8-400-10-450/-
(a) **Mechanical** — Certificate Course from I.T.I. with 5 years experience.
(b) **Glass Blowing** —10 years schooling and 2 years experience.
(iii) **Technician (A)** —Rs. 225-5-260-6-290(EB)-6-308/-
Electronics—Certificate Course from I.T.I. in Electronics/ Electrical Engineering.

Six copies of applications in plain papers giving full bio-data including (1) Name in full (in block letters), (2) Father's name, (3) Date of birth, (4) (a) Permanent address; (b) Present address, (5) Present occupation; if any, (6) Detailed academic career from Matriculation/Higher Secondary / High School Leaving Certificate Examination and onwards showing Division/Class, aggregate percentage of marks, School/College/ University from which appeared (attested copies of marksheets, Certificates should be enclosed), (7) Details of appointments held with designation, duration and nature of works and name of employers, (8) Name and address of two referees not related to the candidate together with an application fees of Rs. 5/- (Rupees five) and Rs. 3/- (Rupees three) for the posts No. 5 and 8 by CROSSED INDIAN POSTAL ORDER drawn in favour of the Registrar, Dibrugarh University, should be sent in a sealed cover superscribed "Application for the post of" (Name of the post applied for), addressed to the Registrar, Dibrugarh University, Dibrugarh to reach him not later than 10-10-80.

The number of the advertisement and name of the post applied for must be referred to in the application. Persons in employment should apply through proper channel or with a 'No objection certificate' from the present employer. Application not in conformity with the above requirements will not be entertained.

Candidates will be required to appear at an interview if and when called for but no T. A. will be admissible for the purpose.

D. Pathak
REGISTRAR

Applications are invited (through proper channel, in case of those who are already in employment) so as to reach this office on or before Tuesday the **30th September, 1980** in the prescribed form available from the Registrar's Office on pre-payment of Rs. 4/- (Rs. 3/- extra in case required by post) for the undermentioned posts:

1. **Professor of Library Science**—in the grade of Rs. 1500-60-1800-100-2000-125/2-2500 (who will also be in-charge of the library).
2. **Director for Institute of Correspondence Studies**—in the scale of Rs. 1500-60-1800-100-2000-125/2-2500.
3. **Registrar**—1 in the grade of Rs. 1500-60-1800-100-2000-125/2-2500.
4. **Readers**: Geography—1, Psychology—1 and Indian Philosophy (for Special Assistance Programme in Philosophy)—1 in the grade of Rs. 1200-50-1300-60-1900.
5. **Lecturers**: Law—7, Jain Studies—1 and Economic Administration, & Financial Management—1 in the grade of Rs. 700-40-1100-50-1600.

The details of qualifications etc. may be obtained along with the prescribed application form or separately, as the candidate may desire. The benefits of Provident Fund, D.A. and other allowances will be admissible as per rules of the University. The candidates desiring to apply for more than one post, must send separate applications for each post. Candidates will be called for interview at their own expense. Incomplete applications shall be rejected without making any reference.

Persons who have already applied for the post of Director, Institute of Correspondence Studies, in response to the University Advertisement No. 10/79, dated **5.10.79** and notification dated **4.1.80**, need not apply afresh. They should however, intimate to the University that they are still desirous to be considered for the post applied for on the basis of their earlier application sent in response to the aforesaid advertisement. They may also send the particulars of their additional qualifications and experience etc. acquired since then on plain paper by due date.

Persons who have already applied for the post of Registrar in response to University Advertisement No. 12/80 dated **8.5.80** are required to apply afresh.

The University reserves the right to alter the number of posts in any cadre or subject. Higher start may be given to deserving candidates. Selected candidates are liable to be posted in any unit of the University.

Persons who resorted to unfair means at any exam. and were punished therefor OR were convicted by a Court of Law for any offence involving moral turpitude are not eligible. Retired persons also need not apply.

The University reserves to itself the right to consider persons who have not applied, particularly for the post of Professor.

REGISTRAR

Indian School of Mines

DHANBAD-826004

Advt. No. 420005/80

Dated 28/8/1980

The Indian School of Mines (deemed to be a University under the U.G.C. Act) invites applications for the following posts:

1. One Senior Technical Assistant: for the Deptt. of Electronics and Instrumentation: **QUALIFICATIONS**—(i) B.Sc. (Hons.) in Physics or Radio Physics or 3-year Diploma (or equivalent qualification) in Electronics, Radio Engg. or Instrumentation. (Essential but relaxable in case of candidates who have exceptional experience and knowledge in Electronics Instrumentation). (ii) Five years experience in repair, testing and maintenance of equipment such as Oscilloscopes, Recorders, Measuring Instruments, etc. (Essential). (iii) Ability to assist in the design and fabrication of electronics circuits and familiarity with IC's (Desirable).

2. One Senior Assistant (Public Relation) in the General Office: **QUALIFICATIONS**—(i) Graduate, with Post Graduate degree in Journalism (Essential), (ii) Three years journalistic experience or experience in Publicity and Public Relations Work (Essential), (iii) Experience in Writing feature articles and in editing, etc. (Desirable).

3. One Technical Assistant (Mechanical Engineering) for the Deptt. of Engg. & Mining Machinery: **QUALIFICATIONS**—Diploma in Mechanical Engineering OR Certificate in any Mechanical trade with Operation, repair and maintenance of mechanical equipment (especially Coal-cutting and other Mining Machinery) for a period of 2 years in case of candidates holding a diploma and 5 years in case of those holding a certificate.

4. One Technical Assistant (Electrical Engineering) for the Deptt. of Engg. & Mining Machinery: Lien vacancy for one year. **QUALIFICATIONS**—Diploma in Electrical Engg. OR Certificate in any Electrical trade with cable jointing, Vulcanising OR repairing of electronic equipment for a period of 2 years in case of candidates holding a diploma and 5 years in case of those holding a certificate.

5. One Technical Assistant for the Deptt. of Electronics & Instrumentation: **QUALIFICATIONS**—B.Sc. (Hons.) in Physics OR Radio Physics OR 3 years Diploma (OR equivalent Qualification) in Electronics Radio Engg OR Instrumentation. (Essential but relaxable in case of candidates who have exceptional experience and knowledge in Electronics Instrumentation) with repair, testing and maintenance of electronic equipment such as Oscilloscopes, Recorders, Measuring Instruments etc. (Essential).

Pay Scale: Rs. 550-900 for post at serial 1 & 2 and Rs. 425-700 for rest in addition, allowances admissible as per Govt. of India Rules sanctioned from time to time. Total emoluments currently amounts to Rs. 859.80 at the Rs. 550 stage and Rs. 679.70 at the Rs. 425 stage.

Age Limit: Not more than 30 years for STA/SAP and 25 years for TA/SA. Upper age limit relaxable by five years for SC/ST candidates. Age limit also relaxable in case of persons otherwise considered specially suitable.

General: Other things being equal, preference will be given to SC/ST candidates.

Further details and prescribed application forms are obtainable from Registrar, Indian School of Mines, Dhanbad-826 004 on sending a self-addressed envelope of size 30 cm x 12 cm affixed with postage stamps of the value of Rs. 3.45 only. Completed application forms should reach the Registrar on or before **30th September, 1980**. **CANVASSING IN ANY FORM WILL BE TREATED AS DISQUALIFICATION**.

S. P. VARMA
REGISTRAR

A list of Doctoral Theses Accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Bharati, R. Contributions to the study of Schlicht functions. University of Madras.
2. Dubey, Vikrama Jeet. Studies in the differential geometry of Finsler spaces. University of Gorakhpur.
3. Khapate, Basavaraj Shivabasappa. Some problems in viscoelastic and MHD flows. Karnatak University.
4. Shafullah. Plane wave solutions of various field equations in general relativity and unified field theory. University of Gorakhpur.
5. Singh, Kaushal Kumar. Non-equilibrium flows in non-conducting and conducting fluids. University of Gorakhpur.

Physics

1. Asokamani, R. Electron energy bands of Mg, Tc and Sr and the study of some of their physical properties. University of Madras.
2. Chakoo, K.J. Study of the spectra of diatomic molecules and BiF , SbO and SbO^+ . M.S. University of Baroda.
3. Desai, T.S. Luminescence studies with biomolecular system. University of Poona.
4. Govindarajan, T. R. Some studies on relativistic wave equations in external fields. University of Madras.
5. Gupta, Virender Kumar. Scaling and 'A' dependence of multiplicity in hadron-nucleus interactions at energies = 20GeV. University of Jammu.
6. Kesavaraju, V. Studies in solid state physics : Fabrication of solid state pulse interferometer and measurement of third order elastic moduli of binary Al-alloys. Sri Venkateswara University.
7. Malhotra, Bansi Dhar. Studies of positron annihilation and phase transitions in some liquid crystals. University of Delhi.
8. Mulla, Mohamed Farooq Ramzan. Studies on some aspects of luminescence in CaSO_4 : Dy: Biphosphors. Shivaji University.
9. Nandi, Pushpalata Narayanadas. Electrical, dielectric and thermo gravimetric studies in some hydrated metal sulfates. Nagpur University.
10. Soni, Ram Swaroop. Luminescence studies of zinc oxide phosphors. University of Saugar.

Chemistry

1. Agarwal, Chander Mohan. Synthetic investigation on dyes, azlactones and coumarins. Awadhesh Pratap Singh University.
2. Bansal, Vijaya. Synthetic investigations on azlactones, coumarins and acid hydrazides. Awadhesh Pratap Singh University.
3. Bevinakatti, Hanamanthasa Shankarasa. Heterocyclic analogs of chloranphenicol. Karnatak University.
4. Bhattacharya, B. K. Search for new heterocyclic pesticides with special reference to their herbicidal activity. University of Gorakhpur.
5. Damle, H.G. Studies in molten salt binary mixtures. University of Poona.
6. Deshmukh, Suhas Keshavrao. Kinetics and mechanism of base hydrolysis of octahedral cobalt (III) complexes. Shivaji University.
7. Garg, Urmila. Studies on fluorine containing heterocycles of biological interest. University of Rajasthan.

8. Kailash Wati Devi. Complex formation in molten salts : Association constants of single and mixed silver-halide complexes in molten $(\text{Na, K})\text{NO}_3$ — $\text{Ba}(\text{NO}_3)_2$ as solvent. University of Delhi.

9. Khajuria, Chander Mohan. Thermal decomposition of copper (II) and zinc (II) carboxylates. University of Jammu.

10. Khanna, P.N. Useful synthons of biologically active compounds. University of Poona.

11. Lakshmi Narayan, Valluri. Study of triterpenes from *Callicarpa arborea* Roxb. and *Swietenia mahagoni* Linn. Andhra University.

12. Mehta, A.L. Studies on drug potentials. Saurashtra University.

13. Mishra, Byash. Thermodynamic studies on thermo-osmotic phenomena. University of Gorakhpur.

14. Mohan Singh. Molecular interactions in binary mixtures of non electrolytes. Maharshi Dayanand University.

15. Mukherjee, Madhab Narayan. Studies in Condensed ring system. Visva-Bharati.

16. Murali Mohan, K. Studies in oxidation with chromium (VI). University of Madras.

17. Nayak, Ashutosh. Studies on the synthesis of (a) Multiheteromacrocycles ; (b) Polymethin dyes for structure spectra correlation; and (c) Nitrogen and sulphur containing heterocyclic compounds of pharmacological importance. D.Sc. Sambalpur University.

18. Niranjan, Vijay Singh. Synthetic studies in the field of dyes and chemotherapeutic agents. Awadhesh Pratap Singh University.

19. Patel, Ghanshyam Hathibhai. Study of mesomorphism and mixed mesomorphic state. M.S. University of Baroda.

20. Patel, Jashubhai Bakorhai. Studies on poly (arylene, ethylenes), terpolymers and their metal chelates. Sardar Patel University.

21. Patel, M.S. Studies on properties of solutions by physical methods : Electrochemical studies on cadmium Schiff base complexes. Saurashtra University.

22. Pitke, Pradeep Madhavrao. Studies on tamarind kernel oil. M.S. University of Baroda.

23. Saha, Swapan Kumar. Studies on the behaviour of inorganic and organic cations towards some polyelectrolytes. North Bengal University.

24. Sharma, Susheela. Kinetics and mechanism of hydrolysis of di-2 methoxy, tri-2 methoxy and mono isopropyl ortho phosphates. Jiwaji University.

25. Vig, Manju. Syntheses of some modified steroids. Panjab University.

26. Vijaya Raju, Kurimella. Some new analytical applications of iron (II) in phosphoric acid medium. Andhra University.

Earth Sciences

1. Nayak, Shailesh Rameshchandra. Geology of the Bauxite deposits of Kutch and Valsad Districts with special reference to their mode of occurrence, genesis and economic utility. M.S. University of Baroda.

2. Shirke, Jaiprakash Madhavrao. Geology of the fire-clay deposits of Saurashtra, Gujarat with special reference to their occurrence, origin and industrial applications. M.S. University of Baroda.

3. Wishve, Vijay. Studies on the Qazi Nag granites, Baramulla District, Kashmir Himalaya, University of Jammu.

Engineering & Technology

1. Chaudhari, Ravindranath Tenitam. Thermoluminescence of the ultraviolet and X-ray irradiated thallium-doped potassium bromide. M.S. University of Baroda.

2. Jha, Rameshwar. Application of Popov type stability conditions in electrical machine analysis. Panjab University.

3. Suryanarayan, A. Dynamic behaviour, frequency response and optimal control of a dialyser. Sambalpur University.

BIOLOGICAL SCIENCES

Biochemistry

1. Desai, Harsha Vishnuprasad. Studies on argine metabolism in germinating seeds. M.S. University of Baroda.

2. Joshi, Sharad Ramrao. Utilization of bagasse for the production of single cell protein. Nagpur University.

Microbiology

3. Gill, Prem Pal. Metabolic alterations during biotin deficiency in *Aspergillus nidulans*. M.S. University of Baroda.

4. Purandare, A.G. Nitrogen fixation in some bacteria grass association. University of Poona.

Marine Biology

1. Kuppusamy, V. Biology and physiology of a wood-boring teredinid with reference to the effects of temperature and salinity on the physiological and biochemical changes in *Lyrodus pedicellatus*. University of Madras.

Botany

1. Aleykutty, K.M. Morpho taxonomic studies in Ranales. Sardar Patel University.

2. Barlinge, Subhash Gunwantrao. Morphological investigations of the flora of Deccan intertrappean series of India, including palaeopalynology. Nagpur University.

3. Behera, Niranjan. Ecology of soil fungi in some tropical soils of Orissa, India. Sambalpur University.

4. Bhagwanani, Pushpa Pritamdas. Floristic and vegetational study of the Gujarat coast, Cambay to Umergaon. M.S. University of Baroda.

5. Chakrabarty, Pranati. Physiological studies on the effect of growth promoters and inhibitors anti-auxins on the extension growth of isolated leaf tissues. Gauhati University.

6. Chauhan, Ragini. Evaluation of higher plants for their fungitoxicity against *Helminthosporium oryzae*. University of Gorakhpur.

7. Dhepe, Rajabhai Sharanappa. Physiological studies in drought resistance. Shivaji University.

8. Gopalakrishnam Raju, Pericherla Venkata Suryanarayana. Embryological investigations in Rubiaceae. Andhra University.

9. Kaliaperumal, Narayana Bakthar. Ecological studies on some red algae of the Visakhapatnam Coast. Andhra University.

10. Kapadnis, B.P. Aquatic fungi of Maharashtra. University of Poona.

11. Mekrani, Shahid. Investigations on fungi associated with diseases of some common edible fishes. University of Gorakhpur.

12. Mitra, Asim Kumar. Embryological studies in the passifloraceae and the cucurbitaceae. Nagpur University.

13. Molla, Fozlur Rahman. Structure and behaviour of chromosomes as an aid in the interpretation of phylogeny and evolution and response of chromosomes to X-ray and various polyploidizing chemicals. Visva-Bharati.

14. Patil, Jayaprakash Shivanagouda. Studies on the effect of growth substances on growth and regeneration in tissue cultures. Karnataka University.

15. Sasangan, K.C. Agaricales of South-West India with special emphasis on the genus *Agaricus*. University of Poona.

16. Sharma, Reeta. Studies on the effect of gibberellic acid and cyclic nucleotides on flowering of *Impatiens balsamina* and *Eschscholtzia californica*. Panjab University.

17. Sundari, K. Tripura. A contribution to the embryology of Pittosporaceae. Kakatiya University.

18. Venkatarathnam, P. Studies on an Indian strain of tobacco necrosis virus. University of Madras.

19. Verma, Karuna S. Studies on the nutritional physiology of *Curvularia lunata* (Walker) Boedjin causing rot of citrus fruits and the biochemical changes during pathogenesis. University of Jabalpur.

Zoology

1. Arya, Mohan Brijesh. Evaluation of certain biochemical responses of *Channa punctatus* (Bloch) to different concentrations of ammonia and to different temperatures. Visva-Bharati.

2. Banyal, Harjeet Singh. Hydrolytic enzymes of erythrocytic stages of rhesus monkey malaria parasite, *Plasmodium knowlesi* and their probable role in red cell invasion. Panjab University.

3. Bhavsar, M.C. Biochemical, histophysiological and ecological studies of edible mudskippers of Sikka Coast of Saurashtra. Saurashtra University.

4. Iyengar, Smriti. Studies on the relationship of post hatching development of brain with the duration of nestling period in altricial birds. M.S. University of Baroda.

5. Joshi, B.G. Studies on the developmental anatomy of *Cocaineillidae* of Poona. University of Poona.

6. Kubra Bano. Some ecological studies on the millipede *Jonespeltis splendidus* in relation to soil humification. Bangalore University.

7. Mohana Rao, Pala Rama. Studies on the ciliates of Visakhapatnam, Andhra Pradesh. Andhra University.

8. Nanda, Balaram. Studies on taxonomy and ecology of Enchytraeidae (Oligochaeta) in tropical soils. Sambalpur University.

9. Neena Rani. Effects of some alkaloidal drugs, carcinogens and antibiotics on mitosis and meiosis in *Pterotheca falconeri*. Panjab University.

10. Pal, Tarun Kumar. Systematics of Silvanidae (Coleoptera : Clavicornia) from India and some neighbouring areas. North Bengal University.

11. Panicker, P.V. Ramachandra. Occurrence, distribution and removal of intestinal parasites in different sewage treatment processes. Nagpur University.

12. Ravindarpal Singh. Histological and histochemical studies on some digenetic trematodes. Panjab University.

13. Sarbjit Kaur. Cytological studies on some Indian bats. (Chiroptera). Panjab University.

14. Satyanarayana Rao, G.P. Some studies on the biology of reproduction in *Clarias batrachus* Linn. Karnataka University.

15. Sudan, Onkar Singh. Studies on trematode fauna of Jammu Province. University of Jammu.

16. Thippareddy, S. Studies on the biology of reproduction in the garden lizard, *Calotes versicolor* (David). University of Mysore.

17. Tripathi, Arun Kumar. Neuro-secretion in *Odioporus longicollis* Olivier (Coleoptera : Curculionidae) with special reference to the effect of chemosterilants. University of Gorakhpur.

18. Vasisht, Roop Narain. Contributions to the tertiary mammals from Haritalyangar, Himachal Pradesh, India and their evolutionary significance in the context of paleoprimatological studies. Panjab University.

19. Vijaya Kumar, N. Denervation studies of some aspect of carbohydrate and protein metabolism in the gastrocnemius muscle of *Calotes versicolor* (Daudin). Kakatiya University.

Medical Sciences

1. Gajalakshmi, B.S. Studies on the effects of scorpion venom on experimental animals and the efficacy of certain drugs in combating the toxic effects. University of Madras.

2. Malhotra, Anil K. Drug addiction : A psychological study. Bangalore University.

3. Pillai, Venugopal, K. Ganglionic mechanisms of some drugs, M.S. University of Baroda.

4. Sharma, Arun Kumar. Phytochemical study of minor sources of unutilized oils and fats and studies on essential oils of *Pistacia integerima* Stewart. University of Saugar.

Agriculture

1. Deshmukh, Rajaram Bapusaheb. Growth, analysis and inheritance of yield, yield components and morpho-physiological traits in chickpea, *C. arietinum* L. Mahatma Phule Krishi Vidyapeeth.

2. Jagtap, Balyant Kanderao. Studies on the leaching losses of nitrogen from medium black soil cropped with sorghum, *Sorghum vulgare* Pers as influenced by levels of nitrogen, organic matter and moisture regimes. Mahatma Phule Krishi Vidyapeeth.

3. Mahendra Singh. Genetic and immunochemical ana-

lysis of heterosis in green gram, *Vigna radiata* L. Wilczek, Haryana Agricultural University.

Animal Husbandry

1. Balu, P.A. Study of physical, osmotic and biochemical changes of blood during preservation for transfusion therapy in *Bos bubalis*. University of Madras.

2. Krishna Chandra. Differential adoption of dairy innovations by the farmers of Intensive Cattle Development Project, Karnal, Haryana. Panjab University.

3. Maheshwari, Sita Ram. A comparative study on energy and protein requirement of the native and cross bred lambs. Panjab University.

4. Nawab Singh. Investigations on the protein requirement for maintenance and milk production in goats. Panjab University.

ADDITIONS TO THE LIBRARY

Association of Indian Universities, Delhi. *Universities handbook 1979*. Delhi, Author 1979. xvi, 1142 p.

Association of Principals of Non Govt. Colleges affiliated to Guru Nanak Dev University. *Financial collapse of non Govt. affiliated colleges: Causes and remedies*. Amritsar, Author, 14 p.

Bowman, Mary Jean and Anderson, C. Arnold. *Mass higher education: Some perspectives from experience in the United States*. Paris, OECD, 1974. 145 p.

Corbett, Anne. *Innovation in education: England*. Paris, OECD, 1971. 48 p.

Council of Europe, Council for Cultural Cooperation. *Some significant experiments in vocational training (Surveys conducted in 1977)*. Strasbourg, Author, 1977. 150 p.

Council of Ontario Universities, Committee on Operating Grants. *Changing public priorities: Universities and the future of Ontario*. Ontario, Author, 1980. vi, 69 p.

Dalit, Per. *Innovation in education: Norway*. Paris, OECD, 1971. 69 p.

Gardner, David Pierpont and Zelen, Joseph. *Strategy for change in higher education: The extended university of the University of California*. Paris, OECD, 1974. 95 p.

Gronbjaerg, Kirsten and others. *Poverty and social change*. Chicago, University of Chicago Press (C 1978) 248 p.

Grubel, Herbert G. and Scott, Anthony. *Brain drain: Determinants, measurement and welfare effects*. Waterloo, Wilfrid Laurier University Press, 1977. xiii, 165p.

India, Ministry of Education and Social Welfare. *Expenditure on education as shown in central and state annual budgets 1974-75 to 1976-77*. Delhi, Author, 1976. iv, 165p.

Institution of Engineers (India). *Role and problems of professional institutions in a developing economy: Seminar, Delhi, 1969*. Delhi, Author, xxix, 148p.

Intergovernmental Conference on Environmental Education, Tbilisi (USSR) 1977. *Education and the challenge of environmental problems*. Paris, Unesco, 1977. iv, 57p.

International programme in environmental education (Unesco-UNEP). *Paris, Unesco, 1977. 20p.*

Needs and priorities in environmental education: An international survey. Paris, Unesco, 1977.

Jones, A. *Multimedia computer assisted and computer-managed instruction*. Paris, OECD, 1971. 99p.

Malik, Vimla. *Psychological freedom in education*. Delhi, Kalyani Publishers, 1979. viii, 207p.

Margolis, Alan M. *Nigeria: A study of the educational system of Nigeria and a guide to the academic placement of students in educational institutions of the United States*. Washington, American Association of Collegiate Registrars and Admissions Officers, 1977. x, 117p.

National Council of Educational Research and Training, Delhi. *Teacher education curriculum: A framework*. Delhi, Author, 1978. iv, 65p.

Ontario, Commission on Post-Secondary Education in Ontario. *Draft report*. Toronto, Queen's Printer, 1972. 112p.

Ontario Institute for Studies in Education *Adult Education through university extension: Selected research abstracts*. Ontario, Author, 1968. vi, 83p.

Paris, OECD. *Framework for educational indicators to guide government decisions*. Paris, Author, 1973. ii, 17p.

Paris, OECD. CERI. *Use of computers in higher education: Perspectives and policies: Results of a seminar, Portland, Oregon, 1970*. Paris, Author, 1971. 39p.

Porwal, L. S. *Industry practice in capital budgeting and investment decision-making procedures*. Delhi, Author, 1975. 160p.

Shingi, Prakash M. and others. *Rural youth: Education, occupation, and social outlook*. Delhi, Abhinav 1977. viii, 109p.

Sivadasan Pillai, K. *Non-formal education for agricultural workers and fishermen: A case study*. Trivandrum, University of Kerala, 1978. 43p.

Sussman, Leila. *Innovation in education: United States*. Paris, OECD, 1971. 67p.

Sweeney, Leo J. *Pakistan (Islamic Republic of): A study of the educational system of Pakistan and a guide to the academic placement of students from Pakistan in educational institutions of the United States*. Washington, American Association of Collegiate Registrars and Admissions Officers, 1977. 156p.

Thomas, Helga. *Innovation in education: Germany*. Paris, OECD, 1971. 58p.

Wanner, Raymond E. *France: A study of the educational system of France and a guide to the academic placement of students in educational institutions of the United States*. Washington, American Association of Collegiate Registrars and Admissions Officers, 1975. xv, 274 p.

**INDIAN INSTITUTE OF
TECHNOLOGY
KANPUR**

Advertisement No. 23/80

Applications are invited for positions of Research Associates in the various Departments and Inter-disciplinary-Programmes of this Institute on a consolidated salary of Rs. 1000/- or Rs. 1200/- or Rs. 1400/- per month depending on qualifications and experience of the candidates.

Selected candidates will be associated with the on-going research programmes of the Institute. They may also be given teaching responsibilities. The initial appointment will be for six months from the date of joining but can be extended upto two years. Recruitment will be done only in such Departments and disciplines where suitable applications are available.

Areas

Aeronautical Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering including Electronics and Communication Engineering, Mechanical Engg., Metallurgical Engineering including Mineral Engineering and Ceramics, Chemistry, Humanities and Social Sciences including Economics and Psychology, Mathematics including Statistics, Physics, Computer Science, Materials Science, Nuclear Engineering and Technology and Industrial Management and Engineering.

Qualifications

Doctorate degree with good academic background and adequate research development experience resulting in research work of good quality.

OR

M. Tech. with good academic record and atleast three years of teaching research-industrial experience with good record outside the work done for the degree.

The candidates must have ability for research evidenced by good publications or developmental work in any one of the aforesaid areas of specialisations.

Four posts are reserved for Schedule Caste/Scheduled Tribe candidates. In case SC/ST candidates are not available, these posts will be treated as unreserved.

Candidates called for interview will be paid second class railway fare from the place of duty to Kanpur and back by the shortest route.

Applications alongwith postal order of Rs. 7.50 (Re. 1.87 for SC/ST candidates) in the name of the Registrar, I.I.T. Kanpur may be submitted on plain paper giving details of academic background (including (class awarded) research/teaching/industrial experience, list of publications and an adequate outline of proposed research and names of two referees to the Dean of Faculty Affairs, Indian Institute of Technology, IIT Post Office, Kanpur-208016, U.P.(India) on or before October 31, 1980.

Indian School of Mines

DHANBAD-826004

Advt. No. 420006/80

Sept. 3, 1980

I. Indian School of Mines, a 'deemed University' under the UGC Act, invites applications for the following faculty positions:

(a) **Two Professors**

One in the Dept of Petroleum Engineering with specialisation in Chemical Engineering.

One in the Dept of Engineering and Mining Machinery with specialisation in Drilling Engineering.

(b) **Two Asstt Professors**

One in the Dept of Pet Engg with specialisation in Chemical Engg, and

One in the Dept of Pet Engg with specialisation in Mechanical Engg.

(c) **Two Lecturers**

One in the Dept of Chemistry, Fuel and Mineral Engg with specialisation in Mineral Engineering.

One in the Dept of Pet Engg with specialisation in Pet Engineering.

(d) **One Senior Technician**

For the Deptt. of Applied Geophysics with specialisation in Electrical Engg/Electronics.

All posts are permanent.

PAY SCALE AND UPPER AGE LIMIT

Professors Rs. 1500-2500 Rs. (50 years)

Asstt Professors Rs. 1200-1900 Rs. (40 years)

Lecturers Rs. 700-1600 Rs. (35 years)

Senior Technician Rs. 650-1200 Rs (35 years)

Allowances admissible as per Govt of India Rules sanctioned from time to time. Total emoluments currently amount to Rs 1014.30 at the Rs. 650/- stage; Rs. 1019.50 at the 700/- stage; Rs. 1660.00 at Rs. 1200/- stage; 1960.00 at the Rs. 1500/- stage and Rs. 2360.00 at the Rs. 1900/- stage.

Upper age limit relaxable in respect of certain specified categories of persons and for candidates otherwise considered specially suitable.

II. Specialising in the field of earth sciences and technology. Indian School of Mines conducts three B Tech programmes (in Min Engg; Min Machinery, and Pet Engg), two M Sc Tech Programmes (in App Geology and App Geophysics), 12 other (industry-oriented) postgraduate programmes in Mining Geophysics/Mineral Exploration/Petroleum Exploration/Engg Geology Drilling Engg/Mining & Mining Planning/Opencast Mining/Pet Prod Engg/Mining Machinery/Mineral Engg/Fuel Engg/Industrial Engg & Management. Three M Phil programmes, in App Geology, App Geophysics and App Mathematics are also run. The School has an ambitious Continuing Education/Executive Development Programme (covering about 30 courses per year), and also a scheme of institutional consultancy.

III. Detailed information for candidates and prescribed application form are obtainable from the Registrar, Indian School of Mines, Dhanbad-826004, on sending a self-addressed envelope of the size 30 cm x 12 cm affixed with postal stamps of the value of Rs. 3.45 paise. Applications in the prescribed application form, complete in all respects, should reach the undersigned on or before 1st October, 1980.

IV. Candidates who have already applied in response to earlier advertisement within the past 12 months, need not apply again.

**S.P. VARMA
REGISTRAR**